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***Flying Operations***

***AC-130 AIRCREW TRAINING***



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This instruction and AFI 11-401, Flight Management, implement AFD 11-2, Aircraft Rules and Procedures and AFD 11-4, Aviation Service. It establishes standards for qualification, mission qualification, continuation, and upgrade training for aircrew members operating the AC-130H/U aircraft and Backup Aircraft Inventory (BAI) C-130E/H aircraft. This instruction is not applicable to Air National Guard or Air Force Reserve Command units. MAJCOMs/DRUs/FOAs are to forward proposed MAJCOM/DRU/FOA-level supplements to this volume to HQ USAF/XOOT, through HQ AFSOC/DOTA, for approval prior to publication IAW AFD 11-2, paragraph 4.2. Copies of MAJCOM/DRU/FOA-level supplements, after approved and published, will be provided by the issuing MAJCOM/DRU/FOA to HQ USAF/XOOT, HQ AFSOC/ DOTA, and the user MAJCOM/DRU/FOA and NGB offices of primary responsibility. Field units below MAJCOM/DRU/FOA level will forward copies of their supplements to this publication to their parent MAJCOM/DRU/FOA office of primary responsibility for post publication review. NOTE: The terms Direct Reporting Unit (DRU) and Field Operating Agency (FOA) as used in this paragraph refer only to those DRUs/FOAs that report directly to HQ USAF. Keep supplements current by complying with AFI 33-360V1, The Air Force Publications Management Program, paragraph 3.66 (periodic review). See **Chapter 1** of this instruction for guidance on submitting comments and suggesting improvements to this publication.

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This instruction contains references to the following field (subordinate level) publications and forms which, until converted to departmental level publications and forms, may be obtained from the respective MAJCOM publication office:

Publications: AFSOCI 11-207, AFSOCI 11-301, and AFSOCI 11-203V5/6

## ***SUMMARY OF REVISIONS***

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## Chapter 1

### POLICY

**1.1. General.** This instruction provides for training management of AC-130H/U aircrew members. It implements AFI 11-202 Vol 1, Aircrew Training, which is affected by the Privacy Act of 1974. Training policy, guidance, and requirements are set forth for each phase of aircrew training. The phases are progressively designed to develop the combat readiness of each aircrew member while maintaining previously acquired proficiency.

1.1.1. Qualification Training (**Chapter 2**) qualifies aircrew members for basic, non-tactical aircrew duties.

1.1.2. Mission Qualification Training (**Chapter 3**) qualifies aircrew members in their unit mission.

1.1.3. Continuation Training (**Chapter 4**) provides the capability for aircrew members to reinforce and build upon previous training and conduct Mission Essential Task List (METL) based, combat-oriented aircrew training designed to enhance and maintain combat readiness.

1.1.4. Upgrade/Specialized Training (**Chapter 5**) upgrades copilots to aircraft commanders and all aircrew members to instructor and flight examiner status. It also qualifies selected aircrew members in specialized mission operations.

**1.2. Training Objective.** The overall objective of the aircrew training program is to develop and maintain a high state of mission readiness, facilitating immediate and effective employment in exercises, contingencies, limited war, and general war operations.

**1.3. Responsibilities.** AFSOC/CC is responsible for overall management of Air Force flying training programs supporting Air Force special operations forces (AFSOF) and USSOCOM. HQ AFSOC/DO is the focal point for AFSOC formal aircrew training management and is responsible for formal school training matters such as curriculum, standardization of training programs, and flying hour management. HQ AFSOC/DP/LG/XP/FM/RT will coordinate their activities with HQ AFSOC/DO to ensure adequate resources supporting aircrew training programs are available. HQ AFSOC/DOT, 16 SOW/CC, and 19 SOS/CC are generally responsible for the oversight of formal school training programs, including the development and execution of the formal school training syllabi and Programmed Flying Training (PFT). Usually, 19 SOS is responsible for conducting initial qualification, requalification, upgrade, and simulator refresher training for AFSOC AC-130 aircrew, as well as AFSOC assigned aircrew continuation training, per this instruction and ETCA.

1.3.1. HQ AFSOC/DOT Responsibilities.

1.3.1.1. Oversee all AC-130 formal flying training and mission ready ground training events.

1.3.1.2. Monitor quality of training for AC-130 students.

1.3.1.3. Process prerequisite waiver requests for all AC-130 aircrew training courses.

1.3.1.4. Determine student training quotas required ensuring adequate AC-130 crew force levels.

1.3.1.5. Allocate and monitor student quotas for aircrew training courses supporting AC-130 units.

- 1.3.1.6. Review and approve Syllabus of Instruction (SOI) for all AC-130 formal aircrew training courses.
- 1.3.1.7. Review changes to ETCA for all AC-130 formal aircrew training courses.
- 1.3.1.8. Hold annual Program Flying Training (PFT) conferences, coordinate PFT issues, and monitor publication of PFT documents and subsequent revisions.
- 1.3.1.9. Approve or disapprove requests for secondary method in-unit training.
- 1.3.1.10. Program flying hours required for all AC-130 aircrew training.
- 1.3.1.11. Monitor resources required to meet AC-130 aircrew training requirements and identify deficiencies in manpower, personnel, facilities, or training equipment.
- 1.3.1.12. Monitor graduate field evaluation programs per AFI 36-2201, Volume 1, Training Development, Delivery, and Evaluation.
- 1.3.1.13. Review and approve Syllabi of Instruction (SOI) and training plans for all AC-130 unit developed aircrew training courses.
- 1.3.2. HQ AFSOC/DPR Responsibilities.
  - 1.3.2.1. Ensure AC-130 aircrew students meet appropriate course prerequisites or possess a HQ AFSOC/DO approved waiver.
  - 1.3.2.2. Establish and maintain personnel assignment policies to ensure quality aircrew instructor manning for AFSOC training programs.
- 1.3.3. HQ AFSOC/XPR Responsibilities.
  - 1.3.3.1. Manage the acquisition, modification, and contractor support of all AC-130 aircrew training devices and courseware.
  - 1.3.3.2. Program sufficient funding to satisfy identified deficiencies in AFSOC aircrew training and ensure concurrency between aircraft and aircrew training devices.
- 1.3.4. HQ AFSOC/XPM Responsibilities.
  - 1.3.4.1. Determine and validate manpower required to support all AFSOC aircrew training programs.
  - 1.3.4.2. Complete force level forecasts for the next Presidential Budget submission plus the next Program Objective Memorandum cycle. HQ AFSOC, in coordination with HQ AFPC, will provide the projected number of assigned aircrew members for each time period, with corresponding authorizations and force turnover rates.
  - 1.3.4.3. Determine and forward to HQ USAF required data for computation of advanced student authorizations needed to support formal aircrew training schools.
- 1.3.5. 16 SOW, 16 OG, and 19 SOS Responsibilities.
  - 1.3.5.1. Be responsible for overall operation, logistics, and administration of AC-130 formal training courses.
  - 1.3.5.2. Conduct and monitor AC-130 formal training courses to ensure course objectives and standards are met.

1.3.5.3. Prepare and distribute PFT.

1.3.5.4. Administer end-of-course critiques and graduate field evaluations. A summary of all critiques and evaluations will be routed through HQ AFSOC/DOT for review.

1.3.5.5. Maintain a class roster of student entries and graduates for each formal course.

1.3.5.6. Prepare and forward to HQ AFSOC/DOT current student training status at least monthly.

1.3.5.7. Award AF Form 1256, Certificate of Training, to graduates per ETCA. Maintain a record of certificates issued. Record will include graduate's name, rank, course completed, course number, dates of course entry and completion, and automated personnel data system (PDS) course code.

1.3.5.8. Prepare, review, and forward to HQ AFSOC/DOT all SOIs. SOIs will contain a brief summary of revised, deleted, or added material and a resource impact statement (flying hours, manpower, facilities, etc.). Coordinate with HQ AFSOC/DOT to ensure formal school graduates meet AFSOC requirements as defined by the AFSOC Mission Essential Task Listing (METL). This includes monitoring and adjusting syllabus content and quality as well as PFT quantity to produce crewmembers qualified to perform the AFSOC mission. The annual Training Review, Syllabus Review, and PFT Conferences are the primary conduits for significant changes.

1.3.5.9. Conduct annual syllabus reviews and update courses appropriately.

1.3.5.9.1. Changes will be incorporated into a revised course syllabus of instruction and coordinated with HQ AFSOC/DOT.

1.3.5.10. Review the Education and Training Course Announcements (ETCA) and determine if changes to the course announcements are needed. If so, coordinate with HQ AFSOC/DOT and submit appropriate changes.

1.3.5.11. Notify appropriate agencies, in writing, when scheduled student graduation dates are extended or if students will graduate without completing all syllabus training requirements.

1.3.5.12. Maintain a master course file per AFI 36-2201, Volume 1, Training Development, Delivery, and Evaluation.

1.3.5.13. Determine annual AC-130 formal aircrew training quota requirements, submit quota requests to HQ AFSOC/DOT, and manage quotas allocated. Commanders at each level will ensure compliance with the policies and intent of this instruction, ensure safety is not compromised, and monitor aircrew training to ensure these programs are both aggressive and realistically designed and executed.

1.3.5.14. Ensure subordinate unit training offices are trained in regulations, procedures, and other facets of job performance.

1.3.6. Supervisor Responsibilities.

1.3.6.1. Identify areas where additional training is needed and direct training accordingly.

1.3.6.2. Obtain necessary training support for deployed personnel from the appropriate agency as the need arises.

1.3.6.3. Ensure objectives determining successful mission accomplishment are briefed, debriefed, and evaluated.

1.3.6.4. Request training waivers through appropriate channels if training facilities or support are not available.

**1.3.7. Unit Training Office Responsibilities.**

1.3.7.1. Monitor unit training programs to ensure compliance with this instruction and applicable Air Force guidance on the training of aircrew members.

1.3.7.2. Submit waivers and notifications as required through appropriate channels. Track continuation training and notify individuals when currency is lost. Notify unit operations officers and commanders on issues affecting readiness.

1.3.7.3. Monitor status of unit training. Report deviations and document significant trends affecting unit or individual training status.

1.3.7.4. Schedule and conduct required or directed training to ensure all crewmembers receive applicable ground training during eligibility periods.

1.3.7.5. Request training quotas required for off-station training through appropriate channels.

1.3.7.6. Conduct annual training reviews for all aircrew members.

1.3.7.7. Submit all unit developed training programs to HQ AFSOC/DOT for review and approval.

**1.4. Aircrew Training Policy.**

1.4.1. Education Training Course Announcement (ETCA) lists the courses available for student attendance and where courses are conducted. Three methods of qualification training exist: formal schools, secondary method, and unit-developed.

1.4.1.1. Formal Schools. Formal schools are the primary method of training. USAF policy is that formal schools will be used when available unless attendance would be impractical.

1.4.1.1.1. Send nominations for formal training schools to HQ AFSOC/DOT through Group/DOT using the sample letter in [Attachment 10](#). Include the individual's ARMS flying history report.

1.4.1.1.2. The 19th Special Operations Squadron is the OPR for syllabi and AF Forms 4111 pertaining to its respective ETCA formal courses. The AF Form 4111 will contain the appropriate tasks and subtasks, minimum events, training profile, and minimum proficiency level prescribed by the applicable courseware. Forward syllabus/AF Form 4111 updates to HQ AFSOC/DOT for coordination and approval prior to implementation.

1.4.1.2. Secondary Method Training (SMT). SMT is conducted at the operational unit, using applicable formal school courseware, or HQ AFSOC/DOT approved AF Form 4111, Special Operations Training Record, where formal school courseware is not developed (does not exist). Submit a waiver to AFSOC/DOT for secondary method approval IAW paragraph [1.6](#). Maintain the secondary method waiver approval in the individual's AF Form 4109, Aircrew Training Record.

1.4.1.2.1. Submit a waiver to AFSOC/DOT for secondary method approval IAW paragraph [1.6](#). Maintain the secondary method waiver approval in the individual's AF Form 4109, Aircrew Training Record.

1.4.1.2.2. HQ AFSOC/DOT will contact the appropriate formal school and request that the courseware be sent to the requesting unit upon waiver approval.

1.4.1.2.3. Time Period for Secondary Method Training. Active duty aircrew members (primary or supervisory) must complete secondary method training within 4 months from the date of their first ground training session (after academics are complete) or first flight, whichever occurs first. Active duty individuals will start training within 6 weeks after reporting for duty. Individuals unable to complete the training within these limits may continue training, however, their unit will notify AFSOC/DOT with a description of the difficulty and an expected completion date (not to exceed an additional 4 months). If SMT is not completed by this date, any further extension requires AFSOC/DOT approval.

1.4.1.3. Unit-Developed Training. Unit-developed training is training conducted at the operational unit that is not offered at a formal school, that is specific to the unit and has been approved by AFSOC/DOT. The training will be accomplished using AFSOC/DOT approved AF Form 4111 overprints. Unit training personnel will prepare an AF Form 4109 prior to beginning unit-developed training.

1.4.1.4. AFSOC/DOT is the OPR for AF Forms 4111 that are not developed through formal schools.

1.4.2. Training Records. Use AF Form 4109 to document the qualification, requalification, specialized, or upgrade training of an aircrew member. This record and attached forms will provide a chronological record of training administered by a formal flight training school or a unit of assignment and serves as a mini-syllabus. It documents all applicable ground training, special function training, part task training, cockpit procedures training, simulator training, and flying training accomplished by an aircrew member. Instructions for completing and managing training records are contained in [Chapter 6](#).

1.4.3. The instructor pilot (IP) will be in a pilot's seat during:

1.4.3.1. Maneuvers for which an individual who occupies a pilot seat is not fully qualified in the specific type aircraft (MDS) and mission being flown.

1.4.3.2. Pilot air refueling qualification from the precontact position or closer.

1.4.3.3. Ground idle touch and go landings.

1.4.3.4. Flight idle touch and go landings when the aircraft commander is not touch and go certified.

1.4.3.5. Simulated emergency flight procedures.

1.4.3.6. Other times required by applicable operational instructions or at the discretion of the instructor pilot.

#### EXCEPTIONS:

1.4.3.7. IPs may stand and instruct unqualified pilots receiving combat mission and live fire training.

1.4.3.8. IP candidates, under the supervision of a qualified IP (not in a pilot's seat), may occupy a pilot seat with an unqualified pilot in the other seat except during takeoff, landing, and simulated engine-out training.

1.4.3.9. During initial and requalification IP evaluations, IP candidates may occupy a pilot's seat when under the supervision of a flight examiner not in a pilot's seat. Under these conditions, IP candidates may exercise all of the privileges of a fully qualified IP.

**1.5. Active Duty Service Commitments (ADSC).** Formal training, either primary or secondary method, conducted per this instruction may incur an active duty service commitment per AFI 36-2107, Active Duty Service Commitments (ADSC). Reference AFI 36-2107 for program specifics. Unit training officers will coordinate with the servicing Military Personnel Flight (MPF) to ensure the individual acknowledges the ADSC to be incurred by signing the AF Form 63, Active Duty Service Commitment Counseling Statement. This action will occur prior to the individual entering training. Upon course completion, the unit training officer will notify the MPF the individual has completed training and the MPF will update the ADSC in the Personnel Data System (PDS).

**NOTE:** Personnel who change qualification from Navigator to Fire Control Officer (FCO), FCO to Navigator, or upgrade to dual qualification will not incur an additional active duty service commitment.

**1.6. Waivers.** Forward waiver requests through Group/DOT to AFSOC/DOT. AFSOC/DOT will send the official reply to Group/DOT and send an info copy to the originating unit.

1.6.1. Provide the following information in a waiver request in memo or message format:

1.6.1.1. Identify waiver type (include paragraph requiring waiver action).

1.6.1.2. Full name and grade of individual requiring waiver.

1.6.1.3. Unit of assignment (if attached, provide flying unit attached to also).

1.6.1.4. Current crew qualification, including special mission qualifications (if applicable).

1.6.1.5. Total flying time/primary mission aircraft inventory (PMAI) time including instructor/evaluator time (if applicable). Attach ARMS Flying History Report.

1.6.1.6. Crew qualification to which aircrew member is qualifying or upgrading (if applicable).

1.6.1.7. Scheduled training start date (if applicable).

1.6.1.8. Expected qualification or upgrade completion date (if applicable).

1.6.1.9. Date event last accomplished (if applicable).

1.6.1.10. Explanation of reason for waiver.

1.6.1.11. Requesting unit point of contact (include name, rank, office symbol, e-mail address, and telephone number).

1.6.1.12. Mailing address to which the courseware should be sent.

1.6.1.13. If the training requires an ADSC per paragraph 1.5., include the statement "individual acknowledged receipt of ADSC by signing AF Form 63 on <date AF Form 63 signed>".

1.6.2. For secondary method training, the waiver authority (paragraph 1.4.1.2.1.) will include the appropriate formal school (19 SOS) as an addressee on all correspondence and will request that the formal school forward applicable courseware to the aircrew member's unit. Maintain the waiver in the individual's AF Form 4109, Special Operations Aircrew Training Folder.

1.6.3. Units conducting training by the secondary method where a waiver is not required (instructor requalification) will send a request for the applicable courseware through channels to HQ AFSOC/DOT, with an information copy to the appropriate formal school. Include unit point of contact (name, rank, office symbol, and telephone number) and the name and rank of the individual who will receive the training.

1.6.4. Use formal courseware received for training the individual referenced in the waiver. When the courseware is adapted for local use, modify it only if the training is incompatible with local training conditions; i.e., no simulators.

1.6.5. Items listed below may be waived at the level indicated:

1.6.5.1. The wing/group commander may waive 10 percent of the total and PMAI hours required for upgrade in all crew positions. A copy of the waiver must be filed in the individual's training record. Students will bring a waiver letter to the formal school for insertion into their training record.

1.6.5.2. Wing/group commanders may extend individual currency up to 2 months for **Table 4.4** requirements for reasons of crewmember non-availability (does not include flight physical or physiological training). Notify HQ AFSOC/DOT when waivers or extensions are issued.

1.6.5.3. Wing/group commanders may waive flying currency items in **Table 4.6** through **Table 4.8** on an individual basis only. Wings/groups must keep an accurate record of waivers granted. Notify HQ AFSOC/DOT by message when waivers are issued.

1.6.5.4. Waivers that do not fall within the guidelines above must be submitted using the format in paragraph **1.6**.

## 1.7. Senior Officer Flying/Supervisory Aircrew.

1.7.1. Senior Officer Flying. Senior officers in authorized flying positions (API 6 or 8) may be qualified in unit aircraft if they have completed formal UPT/UHT course (orientation courses do not apply). They must complete annual written exams and flight evaluations which will be annotated on AF Form 8, Certificate of Aircrew Qualification.

1.7.1.1. General officers in commander billets may fly without an instructor pilot (IP) only if they are in command billets, they are mission qualified, and they maintain the basic qualification requirements in **Table 4.6** and the mission ready or basic mission capable requirements in **Table 4.7** or **Table 4.8**. All other general officers must fly with an IP. General officers, restricted to flying with an IP, as a minimum will complete the following semiannual currency requirements in each aircraft in which the general officer is qualified:

	Pilot	Other
Sorties	6	6
Takeoff/Approach/Landing	6 each	N/A

1.7.1.2. Colonels will maintain either basic aircraft qualification, basic mission capable, or mission ready status and complete the appropriate ground and flying requirements outlined in **Chapter 2**, **Chapter 3**, and **Chapter 4**. Operations Group commanders must be basic mission capable flight examiners.

1.7.1.3. Lt Col and below will maintain either basic aircraft qualification, basic mission capable, or mission ready status, and complete the appropriate ground and flying requirements outlined in [Chapter 2](#), [Chapter 3](#), and [Chapter 4](#). Flying squadron commanders and operations officers will maintain mission ready status.

1.7.2. Supervisory Flying. Senior officers in authorized supervisory flying positions (API 6 or 8) who are qualified and maintain currency in one type aircraft, but have other types assigned to their units, may fly in primary crew positions in unit aircraft in which they are not qualified in observer status only ("O" or "X" crew position), and only after completion of the Senior Officer Orientation Course for the applicable aircraft (note: only one Senior Officer Orientation Course is required for transitioning between AC-130H/U, C-130E, and MC-130E/P aircraft). They must have current flight physicals, physiological training, and egress training prior to their first flight. They will log "other" time (not creditable for pay) and will not occupy a pilot's seat with passengers on board. Senior officer pilots logging "O" time will always fly with an instructor pilot when occupying a pilot seat (see AFI 11-401, Flight Management, for further guidance).

1.7.3. Senior Officer Multiple Aircraft Qualification. Senior officers in supervisory flying positions (API 6 or 8) maintaining multiple aircraft qualification must have completed a formal UHT/UPT course. Basic aircraft qualification requires annual qualification examinations for each aircraft. Only one annual basic qualification flight evaluation is required between AC-130H, C-130E, and MC-130E/P aircraft. Maintain Flight Evaluation Folder (FEF) and semiannual currency requirements at primary unit. Annual basic qualification flight evaluations are required in AC-130U aircraft. Mission qualification requires mission qualification examinations in each MDS and mission flight evaluations in each MDS.

**1.8. Intracommand and Intercommand Transfer of Aircrews.** Validated training completed prior to transfer is honored by the gaining organization and is used to determine the appropriate training phase where the newly assigned aircrew member is placed. Aircrew members qualified in the same MDS of one unit are considered qualified in that equipment throughout the force when used for the same mission.

**1.9. Initial Cadre for Change of Aircraft, Equipment, or Capability.** When possible, qualified personnel in other units operating like equipment will provide the initial cadre. In some instances, it will be necessary for units converting from one design aircraft to another to form an initial cadre of aircrew personnel for whom certain training qualification requirements may be waived. Authorization to form initial cadre crews will be contained in the conversion program action directive. Unless otherwise stated in the program action directive, the following conditions will apply to management of initial cadre aircrew qualification:

1.9.1. A nucleus of instructor and flight examiner personnel (initial cadre) will be formed to begin aircrew conversion. Converting units send proposed initial cadre list by name, rank, current crew position and aircraft, total flying time, and requested crew qualification level through channels to HQ AFSOC/DO for approval.

1.9.2. Initial cadre will not be designated in a crew position higher than currently held; for example, AC-130H aircraft commander to AC-130U flight examiner. Enter appropriate comments in the remarks section of AF Form 8 explaining the individual's status as initial cadre instructor or flight examiner.

1.9.3. Following final approval, publish a squadron letter to identify initial cadre instructors and flight examiners by aircraft and crew qualification and file in each cadre individual's FEF.

**1.10. Deviations.** This instruction does not authorize deviations from the flight manual or any other Air Force Instruction. Flight safety will be given prime consideration and must take precedence over the requirements and guidance of this instruction.

**1.11. Unit Aircrew Capability.** Squadrons will maintain mission ready status on all primary aircrew members up to unit authorizations. Commanders will ensure aircrews are trained to meet capabilities specified in unit designed operational capability (DOC) statements. Supervisory aircrew and staff members assigned above squadron level which are in excess of the units mission requirements will maintain mission ready, basic mission capable, or basic aircraft qualification status, as required.

**1.12. Changes.** Recommendations for improvement to this instruction are encouraged. Send to HQ AFSOC/DOT through command channels, on AF Form 847, Recommendation for Change of Publication.

1.12.1. HQ AFSOC/DOTA will:

1.12.1.1. Coordinate all changes to the basic instruction with AFSOC and all applicable MAJ-COM/DOs.

1.12.1.2. Address time sensitive changes by immediate action message.

1.12.1.3. Forward recommended changes to HQ USAF/XOOT for HQ USAF/XO approval.

1.12.2. Determine training requirements for the subordinate units. This includes making changes, additions, or deletions to this instruction at anytime.

**1.13. Publication Administration.** As a minimum, instructors and flight examiners will maintain this instruction. AFSOC PDOs will consolidate requirements and distribute to units within their areas of responsibility.

**1.14. Terms and Abbreviations Explained.** See [Attachment 1](#).

## Chapter 2

### QUALIFICATION TRAINING

**2.1. Overview.** This chapter outlines the minimum requirements for qualification, conversion, or difference training of pilots, navigators, flight engineers, and loadmasters. Conduct requalification training IAW paragraph 4.4. Required qualification training for other aircrew members is in Chapter 3. Commanders will ensure aircrew members completing qualification, conversion, or difference training meet the requirements of this chapter. Conduct requalification training IAW paragraph 4.4.

**2.2. General Requirements.** The primary method of qualification is to complete the appropriate formal training course listed in ETCA. Completing the appropriate formal course satisfies the training requirements of this chapter. On the rare occasions when attendance is not possible or quotas are not available, units may request waivers to conduct secondary method qualification training using formal school courseware. The secondary method requires use of formal school courseware and a waiver from the appropriate waiver authority as listed in paragraph 1.6. Prior to certification or performing unsupervised primary aircrew duties, newly assigned personnel must complete a unit/theater indoctrination program per Chapter 4 of this instruction.

**2.3. Training Prerequisites.** Before entering qualification/requalification training, each aircrew member must comply with the appropriate formal course initial qualification training prerequisites prescribed in ETCA. Request prerequisite waivers IAW paragraph 1.6.

2.3.1. The following chart is based on total flying hours and C-130 hours. It shows the minimum requirements to be trained and evaluated as a first pilot (FP). If the requirements below are not met, train and evaluate the individual as a copilot (CP).

**Table 2.1. Minimum Hours Required For First Pilot Qualification Training.**

Total Flying Time (Hours)	C-130 Hours*
1,900 or more	200
1,600 - 1,899	300
1,300 - 1,599	400
1,000 - 1,299	800

\* For the purpose of this instruction, any type C-130 aircraft.

2.3.2. Aircrew members requalifying in the aircraft will comply with the appropriate ETCA requalification course prerequisites and incur an active duty service commitment for requalification IAW AFI 36-2107. If there is not a separate requalification course, these aircrew members will comply with the initial course prerequisites.

**2.4. Ground Training Requirements.** Satisfactory completion of the appropriate ETCA formal training course satisfies the requirements of this paragraph. Approved SMT must be accomplished IAW applicable formal school courseware and will include the following ground training:

2.4.1. Ground Training. Accomplish any grounding items from Table 4.4. prior to flight.

2.4.2. **Written Examination.** A written examination must be completed before the end of qualification flying training. Prepare the written examination locally and take questions from the appropriate series aircraft technical orders and applicable instructions (formal school or group stan/eval qualification open and closed book examinations meet this requirement). When completed by the student, the exam will be graded and corrected to 100 percent. All pilots must also satisfactorily complete the annual instrument refresher course and exam if not presently holding valid completion dates. The formal schools will not forward their examinations as part of the courseware for in-unit qualifications.

2.4.3. **Flight Deck and Cargo Compartment Familiarization.** Aircrew members must be given flight deck and cargo compartment familiarization. Place emphasis on the location and function of all switches and controls required for all emergency procedures.

**2.5. Flying Training Requirements.** Satisfactory completion of the appropriate ETCA formal training course satisfies the requirements of this paragraph. Approved SMT must be accomplished IAW applicable formal school courseware and the guidance below:

2.5.1. Flying training lessons should be completed sequentially. If mission scheduling or student progress dictates otherwise, the student's operations officer may change the training sequence.

2.5.2. There should be minimum time lapse between training missions. Every effort should be made to complete qualification training requirements within the prescribed time period.

2.5.3. Crewmember requirements may be completed on training or operational missions under the supervision of an instructor in the same aircrew position. Comply with restrictions in AFI 11-2AC-130, Vol 3, AC-130 Operations Procedures.

2.5.4. Conduct flight evaluation IAW AFI 11-2AC-130, Vol 2, AC-130 Aircrew Evaluation Criteria.

2.5.5. AFSOC policy for C-130 pilot training requires that, prior to the qualification evaluation, copilots will see a demonstration of a simulated 2-engine approach and landing. IPs and pilots will train to a 3C level in simulated 2-engine approaches and landings. IPs will train to a 3C level in simulated 3-engine takeoffs (only those qualified in C-130E/H).

**2.6. Basic Aircraft Qualification Conversion/Difference Training Requirements.** Conversion training is normally associated with training between MDSs. Difference training is normally conducted when training in a different series aircraft in the same MDS. Conversion training usually results in an aircraft evaluation and difference training is usually completed with an instructor sign-off. Use difference training when changing between same design aircraft and the amount of training needed for qualification does not warrant attendance at a formal qualification course. For instrument/qualification purposes, the AC-130H/U, C-130E/H, , and EC-130E/H are generally considered to be the same MDS. See individual crew positions below for specifics. Additionally, accomplish difference training when an aircraft is modified and any required training for that modification can easily be accomplished in-unit. Normally, conversion training is accomplished as a result of qualification training at the formal school. In-unit conversion training can be used as a method to quickly qualify an aircrew member in order to use them as a basic crewmember while awaiting formal mission qualification training. Conversion training requires the completion of the appropriate AF Form 4111 and satisfactory completion of the written qualification examination. Newly assigned aircrew members must also complete unit/theater indoctrination requirements IAW [Chapter 4](#). After conversion, aircrew members may maintain previous Phase I qualifications

in the C-130 at the discretion of the gaining unit commander. Aircrew members entered into conversion training will complete training within 2 months after the first flight of the training program.

2.6.1. Pilot Conversion Training. Conversion training is required when changing from C-130E/H, EC-130E/H and AC-130H to AC-130U aircraft.

2.6.2. Pilot Difference Training. In-unit difference training is authorized when changing from C-130E/H and EC-130E/H to AC-130H aircraft. In-unit difference training is also authorized when changing from either AC-130 to C-130E/H and EC-130E/H. The following events will be taught prior to pilot's instructor sign off/examination: Copilots will see a demonstration of 2-engine approach and landings; pilots and IPs will train to a C level in simulated 3-engine takeoffs (in C-130E) and 2-engine approach and landings.

2.6.3. Navigator Difference Training. In-unit difference training is authorized from C-130E/H and EC-130E/H to AC-130H aircraft. In-unit difference training is also authorized when changing from AC-130 to C-130E if previously C-130E/H qualified.

## Chapter 3

### MISSION QUALIFICATION TRAINING

**3.1. Overview.** This chapter establishes the minimum training requirements for completing mission qualification, requalification for unqualified periods of more than 2 years, and difference training requirements. Conduct mission requalification IAW paragraph 4.4. and this chapter.

**3.2. General Requirements.** The primary method of mission qualification is to complete the appropriate formal training course listed in ETCA. Completing the appropriate formal course satisfies the training requirements of this chapter. When attendance is not practical or quotas are not available, units may request waivers to conduct secondary method mission qualification training using formal school courseware. Aircrew members will complete the appropriate in-unit mission qualification or requalification training IAW HQ AFSOC/DOT approved courseware under the supervision of an instructor qualified on that specific aircraft. This courseware establishes the minimum training requirements required to meet standards specified in AFI 11-2AC130V2. Units may supplement courseware to meet local requirements. Submit all courseware change requests to HQ AFSOC/DOT prior to implementation.

### 3.3. Training Prerequisites:

3.3.1. Aircrew members must meet the prerequisites of the appropriate formal school course described in ETCA. Request prerequisite waivers IAW paragraph 1.6. HQ AFSOC/DOT is the approval authority for AC-130 formal school courses.

3.3.2. Aircrew members requalifying in a unit's mission will comply with the appropriate mission requalification course prerequisites and incur an active duty service commitment for mission requalification IAW AFI 36-2107. If there is not a separate mission requalification course, these aircrew members will comply with the initial mission qualification course prerequisites.

3.3.3. The following chart is based on total flying hours and C-130 hours. It shows the minimum requirements to be trained and evaluated as a mission aircraft commander (MP). If the requirements below are not met, train and evaluate the individual as a mission copilot (MC).

**Table 3.1. Minimum Hours Required For Mission Aircraft Commander Training.**

Total Flying Time (Hours)	C-130 Hours*
1,900 or more	200
1,600 - 1,899	300
1,300 - 1,599	400
1,000 - 1,299	800

\* Any type C-130 aircraft, of which 200 hours must be in an AC-130.

**3.4. Ground Training Requirements.** Satisfactory completion of the appropriate ETCA formal training course satisfies the requirements of this paragraph. Approved in-unit qualification training must be accomplished IAW applicable formal school courseware and will include the following ground training:

3.4.1. Academic Training. As delineated in applicable courseware.

3.4.2. **Written Examination.** A written examination must be completed before the end of mission qualification flying training. Formal school End Of Course (EOC) examinations satisfy this requirement (group stan/eval or equivalent examinations also fulfill this requirement). When completed by the student, the exam will be graded and corrected to 100 percent. The minimum passing score is 85 percent. The formal school will not forward their examinations as part of the courseware for secondary method qualifications. When mission qualification training is completed by secondary method, the student will complete the appropriate group stan/eval or equivalent examination.

3.4.3. **Flight Deck and Cargo Compartment Familiarization.** Aircrew members must be given flight deck and cargo compartment familiarization. Place emphasis on the location and function of all switches and controls required for all emergency procedures.

3.4.4. **Ground Egress Training.** Aircrews will complete initial ground egress training during initial qualification training. All crewmembers will receive training prior to their first flight. Actual hands-on training will be accomplished in the aircraft and will include opening the crew entrance door, a paratroop door, an emergency escape hatch, a pilot's swing window, and the ramp and door. A qualified instructor loadmaster, flight engineer, or certified contractor is required to be present during opening of the ramp and door.

3.4.5. **Combat Camera Aerial Photographers.** Combat Camera Aerial Photographers designated with aviation service code 9D will comply with Flight Surgeon ground training requirements IAW [Table 4.4](#). (not including ACDT [LL04] and CDTQT [LL05]). In addition, Combat Camera Aerial Photographers require Self Aid Buddy Care [G941] every 24 months.

3.4.6. **Medical Technicians.** Medical technicians are designated operational support personnel. However, due to their frequent exposure to the risks associated with military flying, they do have certain requirements. As a minimum, medical technicians will maintain currency in the following ground training items: Flight Physical [ARMS-Resource], Physiological training [ARMS-Resource], ground egress (for any/all MDS they are expected to fly) [LS08], and life support equipment training [LL06]. Since ARMS cannot track operational support personnel (physical and altitude chamber excluded), training documentation will be maintained by the 16 OSS/DOM (medical flight). DOM will provide each unit they fly with a training completion report certified by the 16 OSS/DOM flight commander at the squadron to which they are attached for flying.

**3.5. Flying Training Requirements.** Satisfactory completion of the appropriate ETCA formal training course satisfies the requirements of this paragraph. Approved in-unit qualification training must be accomplished IAW applicable formal school courseware or HQ AFSOC/DOT approved courseware and the guidance below:

3.5.1. Flying training lessons should be completed sequentially. If mission scheduling or student progress dictates otherwise, the training sequence may be changed by the unit commander.

3.5.2. There should be minimum time lapse between training missions, and every effort should be made to complete mission qualification training requirements within the prescribed time period.

3.5.3. Crewmember requirements may be completed on training or operational missions under the supervision of an instructor in the same aircrew position. Comply with restrictions in AFI 11-2AC-130, Vol 3.

3.5.4. Conduct flight evaluation IAW AFI 11-2AC-130, Vol 2, AC-130 Aircrew Evaluation Criteria.

**3.6. Mission Specific Requirements.** AC-130 navigators and fire control officers (FCO) will have 500 hours AC-130H/U time and maintain at least an instructor qualification prior to entering dual navigator/FCO mission qualification training.

**3.7. Mission Difference Training Requirements.** The only crew positions authorized for in-unit difference training for mission qualification are loadmasters, aerial gunners, DSOs, flight engineers, and sensor operators. Accomplish in-unit difference training for aircrew members by completing the AF Form 4111 for difference training and satisfactorily completing the unit written mission qualification examination for the appropriate crew position.

3.7.1. Loadmaster Difference Training. In-unit difference training is authorized between the AC-130H and AC-130U aircraft using applicable approved courseware.

3.7.2. Aerial Gunner Difference Training. In-unit difference training is authorized between the AC-130H and AC-130U aircraft using applicable approved courseware.

3.7.3. DSO Difference Training. After completing initial mission qualification training and evaluation on any AFSOC aircraft, mission qualification on subsequent AFSOC aircraft will be attained through in-unit difference training. Use the applicable HQ AFSOC/DOT approved difference training courseware and certify crewmembers using the AF Form 1381, Certificate of Aircrew Training.

3.7.4. Flight Engineer Difference Training. In-unit difference training is authorized from C-130E/H and EC-130E/H to AC-130H aircraft. In-unit difference training is also authorized when changing from AC-130 to C-130E.

3.7.5. Sensor Operator Difference Training. In-unit difference training is authorized between AC-130H and AC-130U model aircraft.

## Chapter 4

### CONTINUATION TRAINING

#### 4.1. General Requirements:

4.1.1. Requirements in this chapter satisfy the minimum flying and related ground training requirements established by HQ USAF and HQ AFSOC to maintain currency. Individual proficiency may require a greater number of events. Commanders will ensure aircrew members receive sufficient continuation training to maintain individual proficiency. All flying training events are derived from AFSOC mission requirements which correspond to AFSOC Mission Essential Task List (METL), unit METLs, and formal school syllabus training requirements. Any flying training that doesn't support AFSOC METLs, unit METLs, or formal school training should be questioned and reviewed by the unit commander.

4.1.2. Training requirements may be completed on any sortie if the accrediting criteria of this instruction are met. Sorties and events that are compatible may be credited on the same flight.

4.1.3. In planning and scheduling training missions, units will develop realistic mission scenarios to maximize training benefits on each mission.

4.1.4. When more than one event is required during a training period, commanders must ensure flying training events are spread as evenly as possible over the training period.

4.1.5. Accomplish events identified as night requirements during the hours of darkness. Additional night events accomplished that exceed night requirements may be credited as day or total events unless otherwise indicated. Crewmembers who credit night requirements will log primary nighttime on the AFTO Form 781, ARMS Aircrew/Mission Flight Data Document.

4.1.6. Aircrew members will not log continuation training requirements in events in which they are unqualified.

4.1.7. Semiannual/Quarterly training events accomplished on a satisfactory qualification, mission qualification, special mission, or requalification evaluation may be credited toward the individual's semiannual/quarterly currency/volume requirements.

4.1.8. For qualifications requiring instructor certification, the event resulting in certification and each event thereafter may be credited towards currency/volume requirements.

4.1.9. Prerequisites. Aircrew members who maintain basic aircraft qualification status must have completed qualification training (Phase I). Aircrew members who maintain mission ready or basic mission capable status must have completed mission qualification training (Phase II).

**4.2. Training Levels (TL).** Before each semiannual period, the squadron commander or designated representative determines the TL of each assigned aircrew member and will ensure that individuals receive training to successfully perform unit missions and maintain individual proficiency. Aircrew members must meet the minimum criteria established in paragraphs 4.2.1. and 4.2.2. before being assigned to the respective training level. When these minimums are met, awarding a training level is at the sole discretion of the unit commander or designated representative. Note: The aircrew member's availability to fly will not be a factor in assigning a TL.

4.2.1. Flying Training Levels (FTL). FTLs are based upon minimum primary aircraft assigned (PAA) time (total AC-130 time for DSOs) and total time per [Table 4.1](#).

4.2.1.1. FTL “A” – Highly experienced mission ready aircrew members.

4.2.1.2. FTL “B” – Experienced mission ready aircrew members. Basic mission capable aircrew members assigned to this FTL will accomplish 100 percent of their basic requirements ([Table 4.6](#).) and 50 percent of the applicable mission ready requirements from [Table 4.7](#). or [Table 4.8](#).

4.2.1.3. FTL “C” – Basic qualification and mission ready aircrew members (all copilots are assigned to this FTL). Basic mission capable aircrew members assigned to this FTL will accomplish 100 percent of their basic requirements ([Table 4.6](#).) and 50 percent of the applicable mission ready requirements from [Table 4.7](#). or [Table 4.8](#).

**Table 4.1. Flying Training Level Minimum Hour Requirements.**

	FTL A	FTL B	FTL C
Crew Position	PAA/Total time	PAA/Total time	Basic Aircraft Qualification and Basic Mission Ready crewmembers
Pilot*	500/1500	300/1300	
Nav/FCO/EWO	500/1200	300/1000	
Flight Engineer/ Loadmaster	400/<2000	200/<1000	
	200/>2000	100/>1000	
Sensor Operator	500/1200	300/1000	
Aerial Gunner	500/1200	300/1000	
DSO	300/500	100/300	
* PAA time as aircraft commander			

4.2.2. Ground Training Levels (GTL). GTLs are based upon Air Force operational flying experience.

4.2.2.1. GTL “1” – Aircrew members with 5 years or greater of Air Force operational flying.

4.2.2.2. GTL “2” – Aircrew members with less than 5 years of Air Force operational flying.

4.2.3. Change of FTL or GTL. Once the semiannual period begins, personnel will not be moved to a level requiring fewer events.

4.2.4. Established TLs do not preclude the unit commander from scheduling an individual for additional training or assigning an individual to a more restrictive TL.

### 4.3. Training Requirements:

4.3.1. Ground Training. All aircrew members will comply with the applicable requirements of [Table 4.4](#).

4.3.2. Flight Training. All aircrew members who maintain basic aircraft qualification, mission ready, or basic mission capable qualification status must accomplish all applicable training requirements of [Table 4.6](#). Mission ready and basic mission capable aircrew members will also comply with the following:

4.3.2.1. Basic aircraft qualification aircraft commanders maintaining mission ready copilot status will maintain aircraft currency as an aircraft commander IAW [Table 4.6.](#) and mission currency as a copilot IAW [Table 4.7.](#) or [Table 4.8.](#)

4.3.2.2. Basic mission capable aircrew members will accomplish 100 percent of their basic requirements ([Table 4.6.](#)) and at least 50 percent of the applicable mission ready requirements from [Table 4.7.](#) or [Table 4.8.](#)

4.3.2.3. Mission ready aircrew members are required to accomplish all of the applicable mission ready requirements from [Table 4.7.](#) or [Table 4.8.](#)

4.3.2.4. Individuals maintaining navigator/FCO or sensor operator (Infrared (IR)/Television (TV)) dual qualification will accomplish 50 percent of the requirements shown in [Table 4.7.](#) or [Table 4.8.](#) for each position.

4.3.2.5. Semiannual requirements are events required at intervals of 6 months, January-June and July-December, unless otherwise specified.

4.3.3. Prorating Training Requirements. Prorate aircrew member flying training requirements for individuals following completion of basic qualification, mission qualification, requalification, and upgrades to a new special mission qualification, or are not available for flying duties due to PCS, non-flying TDY, DNIF, emergency leave, or other unavoidable circumstances which prevent the individual from flying. Guidelines specified in AFI 11-202 Vol 1 paragraph 4.5 will be applied. Aircrew members who enter training after the start of the training period may be prorated. Prorate individual requirements based on the number of full calendar months left in the training period. Use [Table 4.2.](#) and [Table 4.3.](#) to determine the number of sorties and events required for an individual after proration.

4.3.3.1. After a PCS, stop prorating requirements when the individual receives their initial PCS station medical clearance from the Flight Surgeon (AF Form 1042, Medical Recommendation for Flying or Special Operational Duty).

4.3.3.2. Accept flying training events from previous squadrons with the same MDS. Do not prorate the months that you accept flying training events.

**Table 4.2. Proration Table for Months Remaining .**

DAYS NOT AVAILABLE DURING TRAINING PERIOD	SEMIANNUAL PERIOD MONTHS REMAINING	QUARTERLY PERIOD MONTHS REMAINING
0-15 Days	6	3
16-45 Days	5	2
46-75 Days	4	1
76-105 Days	3	1
106-135 Days	2	N/A
136-165 Days	1	N/A
166 Days to 6 Months	No Requirements	N/A

**Table 4.3. Proration Table for Events Required.**

MONTHS REMAINING SEMI- ANNUAL/ QUARTERLY		NUMBER OF EVENTS REQUIRED FOR SEMIANNUAL CURRENCY										
		24	18	16	12	10	8	6	4	3	2	1
		REMAINING REQUIREMENTS FOR SEMIANNUAL/QUARTERLY PERIOD										
6	3	24	18	16	12	10	8	6	4	3	2	1
5	-	20	15	13	10	8	7	5	3	3	2	1
4	2	16	12	11	8	7	5	4	3	2	1	1
3	-	12	9	8	6	5	4	3	2	2	1	1
2	1	8	6	5	4	3	3	2	1	1	1	1
1	-	4	3	3	2	2	1	1	1	1	1	1

**4.4. Recurrency/Requalification Training.** Recurrency training is training an aircrew member must accomplish under the supervision of an instructor when currency has been lost. The event resulting in recurrency and each event thereafter are creditable for the current training period. Conduct requalification training under the supervision of an instructor or flight examiner when an aircrew member is non-current in excess of 6 months.

4.4.1. Basic Currency/Requalification. Failure to accomplish a basic currency item that is required every 45 or 60 days, as appropriate (**Table 4.6.**, Note 1), or the semiannual requirements of **Table 4.6.** results in the loss of basic currency. Basic recurrency/requalification training requirements are shown below. Individual proficiency will dictate the number of events to be flown with an instructor or flight examiner to satisfy sortie delinquency (as a minimum, one sortie will be flown). Individuals who lose basic currency will not perform mission events unless under the supervision of an instructor or flight examiner.

4.4.1.1. Non-current less than 6 months. Show proficiency in deficient items to an instructor. In addition, pilots will perform a takeoff, approach, and landing.

4.4.1.2. Non-current 6-24 months (unqualified). Qualification training, as directed by unit commander, must include the following: Pilots require simulator refresher or refresher academics, written instrument exam, qualification exam, instrument and requalification flight evaluations. Other crewmembers will complete qualification exam, applicable refresher course, and a requalification flight evaluation. Previous instructors in an MDS may requalify directly to instructor status in that MDS.

4.4.1.3. Non-current 24-60 months (unqualified). Crewmembers must complete requalification requirements IAW **Chapter 2**. Previous instructors in an MDS may requalify directly to instructor status in that MDS.

4.4.1.4. Non-current over 60 months (unqualified): Crewmembers must complete initial qualification requirements IAW **Chapter 2**. Previous instructors may not qualify directly to instructor status.

4.4.2. Core Mission Currency/Requalification. Failure to accomplish all mission currency events that are required every quarter or semiannual period results in loss of mission currency. Loss of currency in certain events does not mean loss of mission currency in all events. **Table 4.7.** and **Table 4.8.** denote which events result in loss of currency in an event, subarea, or mission; however, non-currency in any core mission event in excess of 6 months results in loss of mission qualification. Mission recurrency/requalification training requirements are shown below. Loss of mission currency or qualification does not affect basic currency or qualification.

4.4.2.1. Non-current less than 6 months: Show proficiency in deficient items to an instructor.

4.4.2.2. Non-current 6-24 months (mission unqualified): Mission qualification training as directed by the unit commander, must include completion of a written mission qualification exam and mission requalification flight evaluation. Previous mission qualified instructors may requalify directly to instructor status in those mission areas previously instructor qualified.

4.4.2.3. Non-current 24-60 months (mission unqualified): Crewmembers must complete mission requalification requirements IAW **Chapter 3**. Previous mission qualified instructors may requalify directly to instructor status in those mission areas previously instructor qualified.

4.4.2.4. Non-current over 60 months (mission unqualified): Crewmembers must complete initial mission qualification requirements IAW **Chapter 3**. Previous instructors may not qualify directly to instructor status.

4.4.3. Special Mission Currency/Requalification. Loss of currency/qualification in a special mission event does not affect mission currency/qualification.

4.4.3.1. Non-current less than 6 months: Show proficiency in deficient items to an instructor.

4.4.3.2. Non-current greater than 6 months (unqualified in that special mission): Complete all initial training and evaluation requirements for that special mission. For special mission qualifications which only require an initial certification by an instructor (as outlined in **Table 5.1.**), currency/qualification may be regained by showing proficiency in that event to an instructor. Previously qualified instructors may requalify directly to instructor status in special mission events, if unqualified for a period less than 60 months.

**4.5. Multiple Qualifications.** Refer to AFI 11-202, Vol 1, Aircrew Training, and AFI 11-202, Vol 2, Aircrew Standardization/Evaluation Program, AFSOC Sup1 for crew positions, evaluation requirements, and approval authority for multiple qualifications. DSOs are tasked to fly on all AFSOC aircraft and will maintain multiple qualifications as required IAW AFI 11-202 Vol 2, AFSOC Sup 1. They will comply with each MDS Vol 1 DSO semi-annual ground and flying training currency requirements for each aircraft in which qualification is held. The basic qualification FTL assigned to an individual should be the highest experience level (fewest requirements) of any aircraft in which they maintain qualification.

4.5.1. AC-130H/U and C-130E/H qualified pilots, navigators, flight engineers, and loadmasters may satisfy the Semiannual Basic Aircraft Qualification Flying Training Requirements of **Table 4.6.** (except C-130 Sortie [B481]) in either their primary aircraft or the C-130E/H. If basic semiannual currency is lost (failure to complete the requirements of **Table 4.6.**), it is lost for both aircraft. Lost basic

semiannual currency training may be regained in either aircraft. Failure to complete at least one aircrew proficiency sortie per semiannual period in the C-130E/H results in loss of currency in the C-130E/H and currency must be regained in the C-130E/H. Currency and qualification are regained in the C-130E/H by performing (to the satisfaction of an instructor) a takeoff, approach, and landing in the C-130E/H for pilots and an aircrew proficiency sortie in the C-130E/H for other crew positions as long as basic currency has been maintained in the primary aircraft. NOTE: EC-130E sorties fulfill the C-130E/H proficiency sortie requirement for those personnel that are multiple-qualified in the two aircraft.

4.5.2. Aircrew members qualified in both the AC-130H and AC-130U must complete at least 50 percent of the applicable Semiannual Mission Ready Flying Requirements ([Table 4.7.](#) and [Table 4.8.](#)) in each aircraft. Events accomplished in either aircraft updates currency for both. 100 percent of events applicable to only one aircraft must be accomplished. Failure to accomplish a combined total of 100 percent of the semiannual requirements results in loss of currency for both aircraft. Failure to accomplish at least 50 percent of the semiannual requirements in one aircraft results in loss of currency in that aircraft only, so long as 100 percent of the total semiannual requirements have been met. EXAMPLE: A crewmember accomplishes three combat mission profiles in the AC-130U, and two in the AC-130H (required six total). That crewmember is non-current in both aircraft. A crewmember accomplishes five combat mission profiles in the AC-130H, but only two in the AC-130U. That crewmember is non-current in the AC-130U only.

**4.6. General Information.** [Table 4.4.](#) designates ground training requirements for all aircrew members. Table notes specify which items are considered either grounding or required for mission ready status. For grounding items, crewmembers will not perform flight duties until the grounding item is satisfied. Crewmembers who are non-current/unqualified in a mission ready [Table 4.4.](#) event will only fly on training missions (instructor supervision not required) and will not fly on exercise or contingency missions. Crewmembers who are non-current/unqualified in a training status event will not fly without instructor supervision.

4.6.1. One Time Requirements. Initial training that does not require refresher training.

4.6.2. Recurring Requirements. Crewmembers will comply with the time periods listed in [Table 4.3.](#) for recurring ground training requirements. Crewmembers are current until the end of the month in which the requirement is due. Crewmembers who are being removed from active flying will comply with AFI 11-202, Vol 1, Aircrew Training, para 4.8. for [Table 4.4.](#) requirements.

4.6.2.1. Unless otherwise specified, aircrew members should satisfy their annual requirements within the 6 month period prior to the end of their birth month or currency reference date (CRD). OG/CCs may establish CRDs for their flying units as desired, and will forward a copy of new CRDs to HQ AFSOC/DOT. This authority may be delegated to unit commanders.

4.6.2.2. Except for flight physical and physiological training, the periodic AFSOC established training requirements shown in [Table 4.4.](#) are not required for those aircrew members who will not remain in the command or will be assigned to a non-flying position within 4 months after their due date.

4.6.3. Semiannual Requirements. Events required at intervals of 6 months, January-June and July-December, unless otherwise specified.

#### 4.7. One-Time Ground Training Requirements:

4.7.1. Combat Mission Training (CMT) (Initial) [G071]. Initial CMT is an academic training requirement and provides crewmembers with the academic knowledge required to plan and execute special operations missions in various hostile environments. This training provides the groundwork for conducting the follow-on SOPEs and CATs. Crewmembers will complete initial training in conjunction with mission qualification training. Accomplish IAW AFSOCI 11-207, Tactics Functions and the Tactics Development and Improvement Program.

4.7.2. Combat Survival Training [SS01]. Accomplish IAW ETCA.

4.7.3. Crew Resource Management (Initial) (CRM) [G231]. AFI 11-290, Cockpit/Crew Resource Management Training Program, establishes requirements for developing and managing tailored, mission-specific CRM training programs and requires CRM training for all Air Force aircrew members. CRM training builds on the core CRM curriculum areas of situational awareness, crew coordination, communication, risk management/decision making, task management, and mission planning/debrief. Initial CRM training is a 2-day course taught at all formal schools. Initial CRM training may be credited for aircrew members that have documentation of initial CRM at the 314 OG C-130 formal school.

4.7.4. Department of Defense (DoD) High Risk Training [SS26/SS25]. Peacetime Code of Conduct training is required for all AFSOC high risk operators (all aircrew members, special tactics personnel, etc.). High risk operators are those who, because of the nature of their missions, tactics, and Area of Responsibility (AOR), have a high risk of capture, or due to access to sensitive information, plans or programs, are susceptible to foreign government, terrorist, or enemy exploitation. The training is managed and conducted by the Joint Services SERE Agency (JSSA) as the DoD Executive Agent Action Office or SERE and Code of Conduct Training. SS26 is the identifier for Level "B" training and SS25 is the identifier for Level "C" training. Level "C" training [SS25] can update Level "B" [SS26] training. Training is available as an exportable Level B course (generally one day) for lower risk operators and as a Level C course (academics and practical application) specifically tailored to unit mission. Both levels of training include information in how to deal with peacetime governmental detention and hostage/terrorist survival. The focal point between JSSA and units requiring training are the AFSOC, wing, and unit Liaison (LNO). Wherever possible, LNOs will be Air Force SERE Training Instructors who, following JSSA indoctrination and training, have the necessary core skills to effectively run this advanced survival training program. The LNO is responsible to identify operators requiring training to JSSA. JSSA, in conjunction with JCS/J-3SOD and USSOCOM, will determine risk and appropriate level of training.

4.7.5. Egress with ACDE [LL05]. During initial CDTQT, the crewmember will practice egressing the aircraft with ACDE/AERPS donned.

4.7.6. Hanging Harness with ACDE [LS12]. Crewmembers must demonstrate the ability to remove ACDE while suspended in a parachute harness. [LS10] and [LS12] may be conducted concurrently.

4.7.7. Life Support Familiarization Training [LL01]. One-time event conducted prior to the first flight at home-station to familiarize crewmembers with local emergency equipment and rescue procedures IAW AFI 11-301, Vol 1, Aircrew Life Support (ALS) Program.

4.7.8. Night Vision Device (NVD) Training [VV01]. Initial NVD Training is conducted at the formal school. Training will consist of academic and practical use of current NVDs. As a minimum, the course will include: eye physiology, illumination, NVD components and performance factors, testing procedures, and mission planning considerations. Students attending initial mission qualification

training at AETC formal schools will attend an initial certification course (if not previously certified) that meets the requirements of this instruction and AFI 11-202, Vol 3, General Flight Rules/AETC Sup 1. This includes screening by a flight surgeon for Night Vision Goggle (NVG) adaptability. This course will be completed prior to the individual's initial flight with NVGs.

4.7.9. Pyrotechnic Training [G182]. Conduct initial training IAW AFI 91-202, The US Air Force Mishap Prevention Program. This training will include a discussion of the unit explosive safety operating instruction and applies to loadmasters and aerial gunners.

4.7.10. Unit/Theater Indoctrination Training [G001]. Prior to performing unsupervised aircrew duties, crewmembers will complete a unit/theater indoctrination program. This training is a requirement for all newly assigned and TDY aircrew members and will, as a minimum, consist of ground training and a local flight. Each unit will publish a directive outlining specific ground and flight requirements. Design this training to prepare aircrew members for theater operations. This training will: familiarize them with the local flying area and facilities/support agencies available, introduce any theater/mission unique procedures, and review all theater unique instrument requirements. The instrument training portion will include theater unique instrument requirements and procedures, the use of MAJCOM approved non-DOD instrument approach procedures, required instrumentation for specific approaches, and theater weather conditions. Document unit/theater indoctrination training in ARMS for assigned and attached personnel.

4.7.11. Water Survival (SV-86) [WW01]. Accomplish IAW ETCA.

4.7.12. Visual Threat Recognition and Avoidance Trainer (VTRAT) (Initial). [G270] This training consists of threat recognition and avoidance training using the VTRAT device. Aircrew members attending formal school will receive credit for initial VTRAT at the school. This training provides crewmembers with academic knowledge of threats and performance levels to avoid visual threats required to execute special operations missions in various hostile environments. This training lays the groundwork for future phases of VTRAT in which the crewmember will apply the basic knowledge gained in this training. Refer to AFSOCI 11-207, AFSOC Tactics Program. AETC aircrew members will complete this training if the VTRAT course is instructed in the formal school as part of the applicable syllabus of instruction. Aircrew members, who did not receive initial VTRAT training because it was not a part of the applicable syllabus, are exempt from this requirement; however, it is strongly recommended that the VTRAT initial be accomplished prior to accomplishing VTRAT refresher.

#### **4.8. Recurring Ground Training Requirements:**

4.8.1. Aircrew Chemical Defense Training (ACDT) [LL04]. AFSOCI 11-301, Vol 1, Aircrew Life Support Program, requires initial training within 90 days of arrival to a unit with potential exposure to chemical threats for personnel with no previous ACDT training. This training is designed to familiarize aircrew with ACDE equipment use and procedures outside of the aircraft.

4.8.2. Anti-Hijacking [G090]. Accomplish initial and refresher training every 2 years by reviewing AFI 13-207, Preventing and Resisting Aircraft Piracy (Hijacking).

4.8.3. Anti-Terrorism/Force Protection (AT/FP) Training [G110]. This training is directed by the Chairman, Joint Chiefs of Staff, and will be incorporated as a requirement to AFI 31-210, The Air Force Antiterrorism (AT) Program. All DoD personnel will receive predeployment AT/FP training prior to deployment to OCONUS locations. The goal is to standardize training and preparation actions; and bring consistency throughout the DoD. There are four levels of training. Level I is aware-

ness training for all personnel; Level II is for the unit AT/FP resource officer (AT/FP RO); Level III is for commanders at the O-5/O-6 grades; and Level IV is for O-6 to O-8 wing commander, Joint Task Forces, etc. All AFSOC personnel subject to deployment must receive Level I training, conducted by AFOSI by way of force protection defensive briefings and/or Level II trained POC, based on chapter 12, DoD 0-2000.12H. All individuals will also receive JS Guide 5260, Service Members Personal Protection Guide, and antiterrorism individual protective measures folding wallet card. This is an annual ground training requirement for aircrew members. If an individual is deployed outside of the 6 month training window, OSI will conduct predeployment processing to ensure all deploying personnel have received Level I training.

4.8.4. Authentication and Operations Code Systems [G081]. Units will develop local training programs and conduct initial and refresher training IAW AFKAO-5, Instructional Guide for Operations Codes.

4.8.5. Buffer Zone (BZ)/Air Defense Identification Zone (ADIZ) Procedures [G075]. Recurring training is accomplished IAW theater directives.

4.8.6. Chemical Defense Task Qualification Training (CDTQT) [LS17]. Accomplish initial and refresher CDTQT IAW [Attachment 10](#).

4.8.7. Combat Aircrew Training (CAT) Mission [G069]. CAT missions should provide the opportunity to practice/simulate all the requirements associated with planning, flying, and debriefing a combat mission within each theater's AOR. Accomplish IAW AFSOCI 11-207, Tactics Functions and the Tactics Development and Improvement Program

4.8.8. Combat Mission Training (Refresher) [G070]. Refresher CMT is recurring training for the academic knowledge taught in initial CMT. It is required to plan and execute the unit's combat missions. Accomplish IAW AFSOCI 11-207, Tactics Functions and the Tactics Development and Improvement Program. Logging an actual combat mission can be used to update this event.

4.8.9. Combat Survival Training (Refresher) [SS20]. This training will consist of an evasion and survival field training exercise and will encompass the principles, procedures, and techniques required to use standard life support equipment in a survival situation. All aircrew members will accomplish Combat Survival Training Refresher every 3 years. Refer to AFSOCI 11-301.

4.8.10. Crew Resource Management (Refresher) [G230]. Refresher training is designed to reinforce the aircrew's CRM academic knowledge and refocus on skills that lead to successful mission accomplishment. CRM skills should be inseparable parts of operational practices. Those aircrew members who attend a simulator refresher course, which teaches CRM refresher as part of its program, can credit their refresher CRM refresher requirement if the training is conducted with a thorough cross section of crewmembers. Otherwise, have a unit facilitator conduct CRM refresher with a thorough cross section of crewmembers at a location of choice. As a rule of thumb, try to have at least one crewmember per crew position present. The cross section in attendance can span other AFSOC weapon systems since shared experiences across the command is valuable and enhances training.

4.8.11. Cryptologic Skills Proficiency Test (CSPT) [G237]. The CSPT is a battery of tests designed to measure a DSO's technical language proficiency. DSOs will complete the CSPT every 12 months to the end of the month. Failure to complete the CSPT results in loss of mission-ready status. Multi-language qualified DSOs will be considered mission-ready for only those languages in which a CSPT has been successfully completed within the last 12 months. CSPT scores will be documented in AF Form 623 IAW local operating procedures and tracked in ARMS. Refer to 67 IWI 11-202, Vol 2.

- 4.8.12. Egress Training, Non-ejection [LL03]. Aircrews will complete initial egress training during initial qualification training. All crewmembers will receive training prior to their first flight. Actual hands-on training will be accomplished in the aircraft and will include opening the crew entrance door, a paratroop door, an emergency escape hatch, a pilot's swing window, and the ramp and door. A qualified instructor LM or FE is required to be present during opening of the ramp and door. DSOs qualified in multiple aircraft must show proficiency in ramp and door operations on one aircraft type only. LMs and FEs may credit this event when they accomplish an aircraft preflight.
- 4.8.13. Fire Extinguisher Training [G022]. AFOSH Standard 127-56, Fire Protection and Prevention, requires this training upon arriving PCS to a new flying unit. This training will familiarize crewmembers in the use of the type of fire extinguishers onboard their assigned aircraft.
- 4.8.14. Flight Physical [ARMS-Resource]. Accomplish this event annually IAW AFI 41-210, Patient Administration Functions.
- 4.8.15. Ground Chemical Defense Ensemble [G010]. Conduct IAW AFI 32-4001.
- 4.8.16. Hanging Harness Training [LS10]. Trains the crewmember to perform critical post egress and parachute malfunction procedures while suspended under the parachute canopy. Normally, aircrew members demonstrate the ability to modify, steer, and land parachutes, and use the personnel lowering device (PLD). At unit commander discretion, this training may be conducted in an academic setting with a qualified life support technician and/or with a video presentation. Normally, conduct this training in conjunction with Combat Survival Training [SS20]. Conduct training IAW AFI 11-301, Vol 1.
- 4.8.17. Identify Friend or Foe/Selective Identification Frequency Procedures (IFF/SIF) [G082]. Training will include generalized IFF/SIF loading and operating procedures to include time changeover procedures and IFF/SIF on/off lines.
- 4.8.18. Isolated Personnel Report (ISOPREP) [G120]. Accomplish a review IAW AFI 14-105, Unit Intelligence Mission and Responsibilities.
- 4.8.19. Law of Armed Conflict (LOAC) [G100]. Aircrew members will receive refresher training in the principles and rules of LOAC IAW AFI 51-401, Training and Reporting to Ensure Compliance with the Law of Armed Conflict. At a minimum, training will include subjects required by the 1949 Geneva Conventions for the Protection of War Victims and the Hague Convention IV respecting the Laws and Customs of War on Land of 1907.
- 4.8.20. Life Support Equipment Training [LL06]. Accomplish annual refresher training on life support equipment carried onboard unit aircraft IAW AFSOCI 11-301.
- 4.8.21. Marshalling Exam [G002]. Accomplish the marshalling exam within 30 days upon arrival PCS to a flying unit or every 4 years, whichever occurs first, IAW AFI 11-218, Aircraft Operation and Movement on the Ground. If a crewmember completed the marshalling exam at a formal school en route to their permanent duty station, this will suffice provided a thorough review of local taxi/parking procedures is included in the unit/theater indoctrination program.
- 4.8.22. Night Vision Device Refresher [VV02]. Review common NVG hazards, MDS specific hazards, limitations, and preflight procedures (focusing on eye chart or Hoffman 20/20 tester) with an instructor who is qualified to use NVGs. Completion of Initial NVD Training satisfies this requirement.

- 4.8.23. Physiological Training (Refresher) [ARMS-Resource]. Conduct every 5 years IAW AFI 11-403.
- 4.8.24. Pyrotechnic Training [G183]. Conduct refresher training IAW AFI 91-202, The US Air Force Mishap Prevention Program. This training will include a discussion of the unit explosive safety operating instruction and applies to loadmasters and aerial gunners.
- 4.8.25. Safe Passage [G062]. Training will include instruction on the following airspace and associated procedures: Airspace Coordination Areas, Restricted Operating Areas/Zones (ROA/ROZ), High Density Airspace Control Zones (HIDACZ), Base Defense Zones (BDZ), weapons free zones, and Minimum Risk Routes (MRR). Training should include a discussion on current theater Air Tasking Order (ATO) safe passage procedures for frequently visited theaters.
- 4.8.26. Self Aid and Buddy Care [G941]. Conduct every 2 years IAW AFI 36-2238, Self Aid and Buddy Care Training.
- 4.8.27. Small Arms Training [G280(M-9)/G286(M-16)]. AFSOC fixed wing aircrew members are considered Group C and must qualify on assigned weapons IAW AFI 36-2226, Combat Arms Program.
- 4.8.28. Special Operations Planning Exercise (SOPE) [G061]. SOPEs reinforce knowledge gained during in-unit academic training, CMT, aircrew intelligence training, AFTTP 3-1/3 testing, and refresh crews with real-world mission planning procedures. Conduct IAW AFSOCI 11-207 and this paragraph. Consists of a combat mission planning exercise and verification outbrief. Acquaints and refreshes crews with real world mission planning procedures. Flying the planned mission in an Aircrew Training Device is highly encouraged but not required. Tactics and intelligence personnel should prepare the required items and information to minimize the time required by the crew to accomplish the SOPE but maximize the training. Participation in the planning and briefing of an operational, contingency, or exercise mission may be substituted for a SOPE and verification outbriefing. SOPEs are biennial requirements for all crewmembers maintaining mission ready status. This training may credit Combat Mission Training Refresher if applicable items are covered.
- 4.8.29. Tactical Employment/Threat Open Book Test [G063]. All crewmembers will satisfactorily complete a 50 question open book test derived from AFTTP 3-1, Tactics, Techniques and Procedures, Applicable Volumes. Minimum passing grade is 85 percent. Group tactics offices will develop and administer the test IAW local procedures and HQ AFSOC/DOXT guidance. If a crewmember fails this test, the group tactics officer will forward his name to the unit's director of operations who will direct additional training and a retest.
- 4.8.30. Threat Signal Recognition Training System (TSRTS) [G073]. EWOs and pilots will review threat signals on the TSRTS.
- 4.8.31. Use Of Force Training [G283]. Per AFI 31-207, Arming and Use of Force by Air Force Personnel, paragraph 2.10, all armed personnel must meet the level of firearms proficiency required by their arming group. Unit commanders will ensure crewmembers receive "use of force" training before being issued a firearm. Once given, this training is good for 12 months. Unit training offices will document this training in a manner that records the name of the individual trained, the date trained, and the name and rank of the individual responsible for the training. Additionally, this training will be tracked in ARMS.

4.8.32. Water Survival Continuation Training [LS03]. Refer to AFSOCI 11-301. Attend water survival training refresher every 3 years. It consists of "hands on" training for each crewmember with all weapons system specific flotation devices and components available during an overwater emergency. This training emphasizes survivor needs using water survival related equipment and procedures. Personnel arriving PCS during a period when water survival training is not available (i.e., winter months), are granted a waiver to this requirement until 60 days following the next scheduled training date.

#### **4.9. Recurring Aircrew Refresher Training Requirements:**

4.9.1. Pilot /Flight Engineer Simulator Refresher [G251]. Pilots and flight engineers qualified in an AFSOC C-130 type aircraft IAW **Chapter 2** will complete a simulator refresher course as outlined in this instruction at **Attachment 2**.

4.9.1.1. Simulator refresher training is not required for aircrew members who will not be flying the same or similar aircraft beyond 4 months after their due date.

4.9.1.2. Instructors may credit simulator refresher when they instruct a full simulator refresher course.

4.9.1.3. Satisfactory completion of formal school basic qualification, requalification, aircraft commander or instructor pilot upgrade course which includes instruction in a C-130 type simulator satisfies the simulator refresher course requirement.

4.9.1.4. Requests for waivers to simulator refresher training will contain proposed alternate means of attaining the training objectives.

4.9.2. Aerial Gunner Refresher [G236]. Aerial gunners will complete a refresher course as outlined in **Attachment 3**. This training will be conducted by the formal school if the formal school has an operational Aerial Gunner refresher course.

4.9.3. EWO Refresher [G222]. EWOs will complete a refresher course as outlined in **Attachment 4**. This training will be conducted by the formal school if the formal school has an operational EWO refresher course.

4.9.4. Fire Control Officer Refresher [G229]. FCOs will complete a refresher course as outlined in **Attachment 5**. This training will be conducted by the formal school if the formal school has an operational FCO refresher course.

4.9.5. Flight Engineer Systems Refresher [G223]. Flight engineers will complete an annual systems refresher course as outlined at **Attachment 6**. This training will be conducted by the formal school if the formal school has an operational Flight Engineer Systems refresher course.

4.9.6. Instrument Refresher Course (IRC) [G130]. All pilots will complete the IRC IAW AFI 11-202, Vol 2, Aircrew Standardization/Evaluation Program, and AFMAN 11-210, Instrument Refresher Course Program.

4.9.7. Loadmaster Refresher [G224]. Loadmasters will attend a loadmaster refresher course as outlined at **Attachment 7**. Dual qualified and multi-aircraft qualified loadmasters will attend one loadmaster refresher course as outlined at **Attachment 7**. These courses should be alternated per aircraft qualifications. This training will be conducted by the formal school if the formal school has an operational Loadmaster refresher course.

4.9.10. Visual Threat Recognition and Avoidance Trainer (VTRAT) Refresher [G271]. This training consists of threat recognition and avoidance training using the VTRAT device. Aircrew members will attend formal school VTRAT refresher to receive credit for VTRAT recurrence requirements. This training provides crewmembers with academic knowledge of threats and performance levels to avoid visual threats required to execute special operations missions in various hostile environments. This training is dependent on the basic knowledge gained from initial VTRAT training and lays the groundwork for future phases of VTRAT in which the crewmember will apply the knowledge gained in this training. Refer to AFSOCI 11-207, AFSOC Tactics Program. AETC aircrew members will complete this training if the VTRAT course is instructed in the formal school as part of the applicable syllabus of instruction. Currency for this event is based on FTL.

**4.11. Block Training.** Each group operations training office will establish and administer a centralized aircrew block training session. The block training course should include all recurring ground training required to maintain readiness (except physiological training, physical examinations, and simulator refresher) for aircrew members assigned or attached to active duty units.

**Table 4.4. Ground Training Requirements.**

[illegible]

[illegible]

[illegible]

	P L T	N A V	F C O	E W O	F E	L M	S O	A G	D S O	F S
[ARMS]										
Flight Physical AFI 41-210 (Note 1) [ARMS-Resource]	X	X	X	X	X	X	X	X	X	X
REQUIRED EVERY 12 MONTHS										
Antiterrorism/Force Protection Training AFI 31-210 (Note 11) [G110]	X	X	X	X	X	X	X	X	X	X
CDTQTAFI 11-2AC-130V1 (Notes 2, 5, 9) [LS17]	X	X	X	X	X	X	X	X	X	X
Cryptologic Skills Proficiency Test (CSPT) AFI 11-2AC-130V1/67 IOWI 36-2201 (Note 2) [G237]									X	
Ground Chemical Defense Ensemble AFI 32-4001 (Note 8) [G010]	X	X	X	X	X	X	X	X	X	X
Law of Armed Conflict AFPD 51-401 [G100]	X	X	X	X	X	X	X	X	X	X
Use of Force Training AFI 31-207 (Note 5) [G283]	X	X	X	X	X	X	X	X	X	X
REQUIRED EVERY 6 MONTHS										
Buffer Zone/Identification Zone Procedures IAW Theater Directives (Note 6) [G075]	X	X								
ISOPREP AFI 14-105 (Notes 2, 5) [G120]	X	X	X	X	X	X	X	X	X	X
Threat Signal Recognition AFI 11-2AC-130V1 (Note 2) [G073]				X						
REQ EVERY 24 MONTHS - GTL 1 REQ EVERY 17 MONTHS - GTL 2										
Aircrew Chemical Defense Training (ACDT) AFSOCI 11-301 (Notes 2, 5) [LL04]	X	X	X	X	X	X	X	X	X	X
Authentication/Ops Codes AFI 11-2AC-130V1 [G081]	X	X		X						
IFF/SIF NORADR 55-67, 55-68 (Notes 3, 6) [G082]	X	X								

[ARMS]	P L T	N A V	F C O	E W O	F E	L M	S O	A G	D S O	F S
Safe Passage NORADR 55-67, 55-68 (Notes 2, 6) [G062]	X	X		X						
REQ EVERY 17 MONTHS - GTL 1 REQ EVERY 12 MONTHS - GTL 2										
Combat Aircrew Training (CAT) Mission AFSOCI 11-207 (Note 2) [G069]	X	X	X	X	X	X	X	X	X	
Combat Mission Training Refresher AFSOCI 11-207 (Note 2) [G070]	X	X	X	X	X	X	X	X	X	
Threat Signal Recognition AFI 11-2AC-130V1 (Note 2) [G073]				X						
REQ EVERY 17 MONTHS - FTL A/B REQ EVERY 12 MONTHS - FTL C										
Crew Resource Management Refresher AFI 11-2AC-130V1 (Note 3) [G230]	X	X	X	X	X	X	X	X	X	
EWO Refresher AFI 11-2AC-130V1 (Notes 3, 4) [G222]				X						
FCO Refresher AFI 11-2AC-130V1 (Notes 3, 4) [G229]			X							
Flight Engineer Systems Refresher AFI 11-2AC-130V1 (Notes 3, 4) [G223]					X					
Loadmaster Refresher AFI 11-2AC-130V1 (Notes 3, 4) [G224]						X				
Navigator Refresher AFI 11-2AC-130V1 (Notes 3, 4) [G225]		X								
Pilot/Flight Engineer Sim Refresher AFI 11-2AC-130V1 (Notes 3, 4) [G251]	X				X					
VTRAT Refresher IAW AFSOCI 11-207 (Note 2) [G271]	X				X	X		X		

	P L T	N A V	F C O	E W O	F E	L M	S O	A G	D S O	F S
[ARMS]										
Sensor Operator Systems Refresher AFI 11-2AC-130V1 (Notes 3, 4) [G233]							X			

**NOTES:**

1. Grounding item. Crewmember will not fly until current in this item.
2. Mission Ready item. Crewmembers overdue any of these items are restricted to local training missions (instructor supervision not required) and will not fly on exercise, contingency, or operational missions.
3. Training status item. Crewmembers will only fly in training status (under instructor supervision) until completed or current in this item.
4. Completion of formal school qualification, requalification, aircraft commander, or instructor flight engineer upgrade including C-130 simulator instruction satisfies the annual requirement (simulator not required for LM).
5. Not required for formal school aircrew instructors. If formal school instructors are deployed for contingency or exercise augmentation, these events must be completed prior to deployment.
6. Operations groups will tailor this training to their theater of operations.
7. Following initial training, FEs and LMs may credit this event when they accomplish a preflight.
8. Required within 90 days after PCS, if arriving from a non-mobility status unit.
9. Required for units equipped with AERPS modified aircraft. Initial training may be accomplished in a certified and AERPS modified Aircrew Training Device (currency must be updated the following year in the aircraft). Training must be accomplished in the aircraft every 4 years thereafter. Training may be accomplished in the Aircrew Training Device in the intervening years.
10. Optional for HQ AFSOC personnel when conducting inspections or evaluations when accompanied by unit assigned and theater indoctrinated personnel.
11. Must be completed within 6 months prior to deployment to OCONUS locations.
12. Accomplish the marshalling exam within 30 days upon arrival PCS to a flying unit or every 4 years, whichever occurs first.

**Table 4.5. Combatant Commander Area of Responsibility (AOR) Training Requirements.**

Training	CENTCOM	EUCOM	SOUTHCOM	PACOM	ACOM
Level I Force Protection (See Note)	X	X	X	X	X
Weapons Qualification	X	X	X	X	X
Threat/Safety/ Assessment	X	X	X	X	X

Rules of Engagement	X	X	X	X	
Ground Crew Defense Ensemble	X	X	X	X	
AERPS	X	X	X	X	
CDTQT	X	X	X	X	
Public Affairs			X	X	
Cultural Training	X				
Human Rights			X		
Self Aid/Buddy Care	X	X	X	X	X
Preventive Medicine	X	X	X	X	X

**NOTE:** Required within 6 months of deployment date.

**4.12. Instructor/Flight Examiner Training Requirements.** Instructors and flight examiners will comply with [Table 4.6.](#), Semiannual Basic Qualification, and the appropriate table for semiannual mission ready flying requirements. IPs and EPs may credit events accomplished in either seat. Instructors and evaluators will not log events accomplished by students or crewmembers being trained/evaluated. Basic Mission Capable instructors/flight examiners must complete 50 percent of their mission ready requirements.

**4.13. Basic Aircraft Qualification Event Definitions.** The following event definitions apply to [Table 4.6.](#), Semiannual Basic Aircraft Qualification Flying Training Requirements:

4.13.1. Aircrew Proficiency Sortie [B010]. An aircrew proficiency sortie may be logged for an individual who is flying in a primary crew position and meets the following position specific criteria:

4.13.1.1. Pilots must accomplish at least three events from [Table 4.6.](#) through [Table 4.8.](#) to log an aircrew proficiency sortie. Credit multiple sorties on multi-leg missions with full-stop landings.

4.13.1.2. Navigators may log an aircrew proficiency sortie when they monitor a departure and approach. Minimum flying time is 30 minutes. A navigation profile may also be credited for a proficiency sortie. Navigators will not take credit for more than one navigation profile on any one flight. If more than one qualified navigator is on a flight, each may obtain sortie credit on the same flight provided each one occupies a navigator position and performs navigator duties.

4.13.1.3. Other aircrew members may credit a sortie when they perform appropriate preflight, in-flight, and postflight duties in their primary crew position. Other crewmembers may credit same day sorties not requiring preflight/postflight (credit multiple sorties on multi-leg missions with full-stop landings). DSOs must meet the same criteria as combat mission profile to log an aircrew proficiency sortie.

4.13.1.4. Multiple aircraft qualified crewmembers may credit aircrew proficiency sorties on any aircraft in which qualification is maintained. Events which can be credited are based on qualification held in each MDS.

4.13.2. Pilot Local Proficiency Sortie (LPS) [B020]. A local training mission including at least 1 hour of primary or instructor time practicing instrument, transition, and emergency procedures. Fly maneu-

vers under the supervision of an IP and repeat them until an acceptable level of proficiency is attained or the LPS may not be credited. If the LPS is incomplete, the instructor will recommend whether the entire LPS or just the incomplete events must be reaccomplished. Instructors and flight examiners need not complete all LPS events on a single sortie. Credit a LPS when all events are complete. IPs and EPs are not required to fly with another IP to credit this event. Unit commanders may add to the following minimum LPS sortie criteria:

- 4.13.2.1. A review of boldface emergency procedures.
  - 4.13.2.2. Two instrument approaches.
  - 4.13.2.3. A holding pattern or procedure turn.
  - 4.13.2.4. A circling approach (traffic permitting).
  - 4.13.2.5. A simulated engine out landing.
  - 4.13.2.6. A simulated engine out go-around.
  - 4.13.2.7. A VFR traffic pattern (weather permitting).
  - 4.13.2.8. 100 percent, 50 percent, and no flap landings (aircraft commanders).
- 4.13.3. Circling Maneuver [B115]. Conduct IAW AFI 11-217, Vol 1, Instrument Flight Procedures.
- 4.13.4. Holding Patterns [B060]. Holding patterns consist of entry into a holding pattern and at least one complete circuit.
- 4.13.5. Emergency Procedure Event [B201]. The purpose of this training is to improve crew competence during aircraft emergencies. The AC or designated representative will facilitate the discussion. This designated representative should be an instructor in their respective crew position. Conduct this training with the entire crew present (or thorough cross section of crewmembers) in a classroom or in flight. All crewmembers will participate by providing inputs/feedback. ACs should fully discuss onset indications, boldface items if applicable, and in-flight/landing or ditching/ground egress procedures. Upon completion of this discussion, crewmembers should understand the nature of the emergency and how the emergency procedure applies to their crew position. Only one emergency procedure is required to log this event.
- 4.13.6. Self Contained Approach (SCA) [NV02]. . Accomplish IAW applicable volumes of AFI 11-2AC-130 and AFTTP 3-3. SCAs may be credited if the pilot determines a landing could be made from the approach after reaching the minimum descent altitude (MDA) and prior to the missed approach point (MAP). Only the pilot flying the approach and navigator may credit this event. Pilots may credit SCAs toward [Table 4.7](#). approach requirements.
- 4.13.7. NVG Landing [NV05]. Accomplish IAW applicable volumes of AFI 11-2AC-130 and AFTTP 3-3. Blacked-out landing zones will be used to the maximum extent possible. NVG landings may be used to credit [Table 4.6](#). landing requirements. NVG landings can dual credit Total Maximum Effort Landings (night) if flown to a 500 foot zone on a marked runway. Do not dual credit landings to unmarked, blacked-out runways.
- 4.13.7.1. NVG Takeoff [NV01]. Accomplish IAW applicable volumes of AFI 11-2AC-130 and AFTTP 3-3. NVG takeoffs flown using max effort procedures may be credited toward Total Maximum Effort Takeoffs (night). NVG takeoffs may be used to credit [Table 4.6](#). takeoff requirements.

4.13.7.2. NVG Go-Around. Accomplished in conjunction with an approach to an NVG landing event in which either an actual or simulated missed approach must be executed. Initiate the go-around at a safe altitude and airspeed.

**Table 4.6. Semiannual Basic Aircraft Qualification Flying Training Requirements by FTL.**

REQUIREMENT [ARMS]	Pilot			Nav			Other		
	A	B	C	A	B	C	A	B	C
Aircrew Proficiency Sortie (Notes 1,2,3,5) [B010]	6	9	12	6	9	12	3	4	6
Emergency Procedure Event [B201]	1	2	3	1	2	3	1	2	3
Local Proficiency Sortie [B020]	1	1	1						
C-130 Sortie (Note 4) [B481]	1	1	1	1	1	1	1	1	1
Pilot Proficiency Events									
Total Takeoffs (Note 1) [B030]	8	12	16						
Night Takeoffs [B050]	2	3	4						
Holding Patterns (Note 2) [B060]	1	1	2						
Instrument Approaches (Notes 1,2) [B070]	8	12	16						
Precision Approaches [B080]	4	6	8						
Nonprecision Approaches [B100]	4	6	8						
NDB Approaches [B112]	1	1	1						
Self Contained Approaches (SCAs) (Note 6)[NV02]	1	1	2						
Circling Maneuver [B115]	1	1	1						
Missed Approaches (Note 2) [B110]	1	1	2						
Total Landings (Note 1) [B150]	8	12	16						
Night Landings [B170]	2	3	4						

**NOTES:**

1. Pilots in FTLs A and B must accomplish a takeoff, approach, and landing every 60 days. Pilots in FTL C must accomplish a takeoff, approach, and landing every 45 days. All other aircrew members must accomplish at least one of these events in the primary aircrew position every 60 days. Failure to do them results in loss of aircraft currency.
2. Fifty percent of these events may be credited in a certified Aircrew Training Device (does not update currency).
3. Flight surgeons must fly at least 50 percent of their annual requirements in the primary unit aircraft for the unit to which they are assigned/attached. Flight surgeons may credit no more than one sortie per calendar day. Flight surgeons must credit a minimum of one night sortie (a sortie on which either takeoff or landing and at least 50 percent of flight duration or 1 hour, whichever is less, occurs between the period of official sunset to official sunrise) per semiannual period. Notify command flight surgeon when time between flights exceeds 60 days for flight surgeons.
4. C-130E qualified crewmembers only. See paragraphs [4.4.1.](#) and [4.5.2.](#) for further guidance.

5. Dual qualified NAV/FCOs will accomplish at least 50 percent of Aircrew Proficiency Sorties from each seat. 60-day currency may be updated from either seat.
6. AC-130U pilots only.

**4.14. Mission and Special Mission Event Definitions and Accrediting Criteria (Table 4.7. and Table 4.8.):**

4.14.1. Air Refueling (AR) [AR22/23]. Crewmembers will accomplish rendezvous, contact (except navigators), and post air refueling procedures to receive credit. Contact qualified pilots must maintain 10 minutes of contact time with no more than two inadvertent disconnects after initial contact. Contact qualified pilots may credit refueling events from either pilot seat.

4.14.2. Combat Mission Profile (CMP) [CT03]. The CMP will consist of a realistic crew-planned combat scenario including a minimum of close air support/troops in contact and any combination of interdiction and/or armed reconnaissance. All available sensors should be fully integrated into the mission scenario to include operation during close air support, dual target attack, and dry offset (for radar). A realistic threat scenario must be planned to enhance the crew's combat readiness. While normally flown using dry fire procedures, a CMP may be logged in conjunction with a live fire event (JA07) if all other training considerations are met. On flights where multiple scenarios are planned and executed, multiple events may be logged. For DSOs to log a CMP, they must provide inputs to the crew that enhance the crew's situational awareness and support the defense of the aircraft during any portion of a tactical mission.

4.14.2.1. Close Air Support/Troops in Contact (CAS/TIC). Operations with ground teams are highly desirable. If ground teams are not available, prepared scenarios may be substituted. Target positions should be determined using a physical description or electronic data (APQ-150/APQ-180). Both direct and offset modes should be employed. Surface escort situations such as irregular patterns, halting the convoy, simulated fire on enemy positions, etc., should be practiced.

4.14.2.2. Interdiction. Operations against prebriefed or preplanned targets. Interdiction targets should be attacked at a preplanned time over target (TOT) if possible. TOTs should be planned to coincide with intercepting orbit tangent or round impact.

4.14.2.3. Armed Reconnaissance. This requires positioning the aircraft within range of a line of communication (LOC) for productive training. Position will be maintained by any and all means available.

4.14.2.4. Dry Fire Procedures. Includes all aspects of live firing except actually loading and firing the weapons.

4.14.3. Defensive Maneuvers [DM01]. Perform defensive maneuvers against simulated threats based on a realistic threat scenario. Maneuver should be flown to a logical conclusion.

4.14.4. AC-130U Dual Target Attack (DTA) [DT01]. DTA involves the use of fire control channels A and B and the inherent capabilities of the AC-130U, using any combination of sensors and guns, in any computer-aided fire control mode. Additionally, exercise the capability to attack geographically separated targets using appropriate gun/sensor combinations. This event may be credited when accomplished during either the live fire or dry fire phases of flight. Crewmembers may log a maximum of two DTA events per mission if one was accomplished during both live fire and dry fire operations.

4.14.5. Expendable Events [EW04]. Accomplish these events in conjunction with ground radar events or aircraft defense to the maximum extent possible. Program and drop chaff or flares to credit an event. Only one event may be credited by each EWO per mission.

4.14.6. Ground Radar Event [EW02]. Engagement with a ground or shipborne SAM/AAA radar site or radar simulator. Multiple events per sortie may be credited if engagements are clearly distinct with respect to time and tactical situation. Each event will include a minimum of 15 minutes activity.

4.14.7. Live Fire [JA07]. This event requires weapons selection, tweak, and accurate expenditure of ordnance on selected targets. Firing of all weapons is desired. Offset live firing should be accomplished. Aerial gunners must operate at least one weapon in all phases from preflight to post-strike to credit a live fire profile. Multiple events may be logged on sorties when the events are accomplished on different range complexes (i.e. A-77 and C-52).

4.14.8. Low Level [TF02]. Use procedures IAW AFI 11-2AC-130, Vol 3. A route will be flown in conjunction with a TOT to a preplanned target. Minimum time en route is 45 minutes. Time between routes will not exceed 90 days for pilots and navigators.

4.14.9. Offset Live Firing [JA12]. This requires expenditure of ordnance on selected targets using offset techniques. Use the APQ-150 or APQ-180 as the primary tracking sensor when available. Make adjustments as necessary to improve accuracy. Multiple offset firings may be credited if accuracy adjustments are made for different targets. A live offset normally consists of a minimum of two shots, the second and following shots being correcting shots.

4.14.10. Radar Profile [RP02]. Use the APQ-180 radar to fire at least one of the guns during live fire. Attempt to use the radar to fire each of the guns when the situation allows. DTA and live offset firing should be included when able. Crewmembers may log only one event per live fire mission.

4.14.11. Self Contained Approaches (SCA) [NV02S]. Perform SCAs IAW applicable tech order guidance and AFI 11-2AC-130, Vol 3.

4.14.12. Go Around From SCA [NV02Y]. Perform IAW applicable tech order guidance and AFI 11-2AC-130, Vol 3.

**Table 4.7. AC-130H Semiannual Mission Ready Flying Requirements by FTL.**

REQUIREMENT [ARMS]	A C A/B/C	C P C	N A V A/B/C	F C O A/B/C	F E A/B/C	E W O A/B/C	S O A/B/C	A G A/B/C	L M A/B/C	D S O A/B/C
<b>CORE MISSION EVENTS</b>										
Air Refueling (AR) (Note 2, 8, 13) [AR22]			1/1/1		1/1/2					
Combat Mission Profile (Notes 1, 4, 13) [CT03]	3/4/6	6	3/4/6	3/4/6	3/4/6	3/4/6	3/4/6		3/4/6	1/2/3
Defensive Maneuver (Note 1, 13) [DM01]	3/4/6	6	3/4/6	3/4/6	3/4/6	3/4/6	3/4/6	3/4/6	3/4/6	1/2/3
Expendable Event (Note 1) [EW04]						1/1/1				
Ground Radar Event (Note 3) [EW02]						1/1/1				
Live Fire (Notes 1, 4, 6, 9, 11, 13) [JA07]	3/4/6	6	3/4/6	3/4/6	3/4/6		3/4/6	3/4/6	3/4/6	
Offset Live Fire (Notes 3, 7, 10, 13) [JA12]	2/3/4			2/3/4		2/3/4				
Self Contained Approach (SCA) (Notes 2, 5) [NV02]	1/1/2	2	2/3/4							
Go Around from SCA (Note 2) [NV02Y]	1	1	1							
<b>SPECIAL MISSION EVENTS</b>										
Air Refueling (AR) (Notes 2, 5, 12, 13) [AR22]	2/3/4	4								
Night AR [AR23]	1/1/2	2								
Low Level (Notes 3, 5, 6, 14) [TF02]	2/3/4	4	2/3/4	1/1/2						
NVG Takeoff [NV01]	2/3/4	4								
NVG Landing [NV05]	2/3/4	4			2/3/4					

**NOTES:**

1. Non-currency in any event in this sub area results in loss of mission currency.
2. Non-currency in any event in this sub area results in loss of currency for this sub area only.
3. Non-currency in any event in this sub area results in loss of currency in only that event.
4. Time between events will not exceed 60 days. DSOs have no time requirement for CMP.

5. Time between events will not exceed 90 days (applies only to navigators for SCA currency)
6. Dual qualified NAV/FCOs will complete at least 50 percent from each seat.
7. Dual qualified NAV/FCOs will complete from the FCO seat.
8. Dual qualified NAV/FCOs will complete from the NAV seat.
9. Dual qualified Sensor Operators will complete at least 50 percent from each seat.
10. Beacon Offset may be accomplished live or dry for the EWO.
11. Multiple events may be logged on sorties when the events are accomplished on different range complexes (i.e. A-77 and C-52).
12. Pilot instructors and examiners may not credit student or examinee accomplishments.
13. Multiple qualified AC-130H/U personnel may accomplish this event in either MDS to update currency in both. At least 50 percent of the total number of semiannual mission ready or mission capable events must be accomplished in each MDS to maintain MR or MC status in that MDS.
14. Low Level qualified instructor navigators may certify FCOs.

**Table 4.8. AC-130U Semiannual Mission Ready Flying Requirements by FTL.**

	A C	C P	N A V	F C O	F E	E W O	S O	A G	L M	D S O
REQUIREMENT [ARMS]	A/B/C	C	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C
<b>CORE MISSION EVENTS</b>										
Air Refueling (AR) (Note 2, 8, 13) [AR22]			1/1/1		1/1/2					
Combat Mission Profile (Notes 1, 4, 13, 15) [CT03]	3/4/6	6	3/4/6	3/4/6	3/4/6	3/4/6	3/4/6		3/4/6	1/2/3
Defensive Maneuver (Notes 1, 13, 15) [DM01]	3/4/6	6	3/4/6	3/4/6	3/4/6	3/4/6	3/4/6	3/4/6	3/4/6	1/2/3
Dual Target Attack (Notes 3, 4, 6, 15) [DT01]	1/1/2		3/4/6							
Expendable Event (Note 1) [EW04]						1/1/1				
Ground Radar Event (Note 3) [EW02]						1/1/2				
Live Fire (Notes 1, 4, 6, 9, 11, 13, 15) [JA07]	3/4/6	6	3/4/6	3/4/6	3/4/6		3/4/6	3/4/6	3/4/6	
Offset Live Fire (Notes 3, 6, 13) [JA12]	2/3/4		2/3/4	2/3/4						
Radar Profile (Note 3, 4, 10) [RP02]			2/3/4							
Self Contained Approach (SCA) (Notes 2, 5) [NN02]	1/1/2	2	2/3/4							
Go Around from SCA (Note 2) [NV02Y]	1	1	1							
<b>SPECIAL MISSION EVENTS</b>										
Air Refueling (AR) (Notes 2, 5, 12, 13) [AR22]	2/3/4	4								
Night AR [AR23]	1/1/2	2								
Dual Target Attack (Notes 3, 4, 6, 15) [DT01]				3/4/6						
Low Level (Notes 3, 5, 6, 14) [TF02]	2/3/4	4	2/3/4	1/1/2						
NVG Takeoff [NV01]	2/3/4	4								
NVG Landing [NV05]	2/3/4	4			2/3/4					

**NOTES:**

1. Non-currency in any event in this sub area results in loss of mission currency.
2. Non-currency in any event in this sub area results in loss of currency for this sub area only.

3. Non-currency in any event in this sub area results in loss of currency in only that event.
4. Time between events will not exceed 60 days. DSOs have no time requirement for CMP.
5. Time between events will not exceed 90 days (applies only to Navigators for SCA currency)
6. Dual qualified NAV/FCOs will complete at least 50 percent from each seat.
7. Dual qualified NAV/FCOs will complete from the FCO seat
8. Dual qualified NAV/FCOs will complete from the NAV seat.
9. Dual qualified Sensor Operators will complete at least 50 percent from each seat.
10. Only one event may be credited per live fire mission.
11. Multiple events may be logged on sorties when the events are accomplished on different range complexes (i.e. A-77 and C-52).
12. Pilot instructors and examiners may not credit student or examinee accomplishments.
13. Multiple qualified AC-130H/U personnel may accomplish this event in either MDS to update currency in both. At least 50 percent of the total number of semiannual mission ready or mission capable events must be accomplished in each MDS to maintain MR or MC status in that MDS.
14. Low Level qualified instructor navigators may certify FCOs.
15. Fifty percent of these events may be credited in a certified Aircrew Training Device (does not update currency). Device must be in combined mode with mission-qualified aircrew (or students in upgrade training under instructor supervision) at available crew positions in order to log a combat mission profile.

## Chapter 5

### UPGRADE/SPECIALIZED TRAINING

**5.1. General.** This chapter identifies the prerequisites and training requirements for qualified aircrew members upgrading to additional levels of qualification.

#### **5.2. Aircraft Commander Upgrade.**

5.2.1. General. The prerequisite flying time levels for upgrade are based on the copilot having gained the knowledge and judgment required to effectively accomplish the unit's mission. Unit commanders must ensure their continuation training programs emphasize these areas for their copilots. Flying experience should include left seat time prior to entering formal school upgrade training. Aircraft commander candidates must have acquired an in-depth knowledge of systems, procedures, and instructions prior to entry into the upgrade program. Normally, copilots selected for upgrade should be experienced enough to upgrade from mission ready copilot directly to mission ready aircraft commander. The upgrade program is primarily designed to teach aircraft commander duties, responsibilities, and provides left seat qualification.

##### 5.2.2. Prerequisites:

5.2.2.1. If commanders select mission ready copilots to upgrade to first pilot (FP) on an interim basis, the individual will maintain mission ready status as a copilot for SORTS purposes until qualified as a mission ready aircraft commander. Paragraph 2.4.1. flying hour prerequisites apply.

5.2.2.2. Copilots must have completed the Aircraft Commander Preparatory Course prior to formal aircraft commander upgrade training. This in-unit training consists of academic and flight training. The courseware should be maintained at each group training office.

##### 5.2.3. Ground and Flight Training Requirements:

5.2.3.1. The primary method of aircraft commander upgrade is satisfactory completion of the appropriate formal course. When attendance is not practical or quotas are not available, units may request waivers to conduct secondary method aircraft commander upgrade training using formal school courseware.

5.2.3.2. Copilots upgrading to mission aircraft commander must have completed basic aircraft qualification training and evaluation prior to beginning mission qualification flying training. Copilots may be upgraded and certified to "basic proficiency only" aircraft commanders prior to completion of final mission qualification.

#### **5.3. Aircrew Instructor Program.**

5.3.1. General. A sound and practical aircrew instructor program is a prerequisite for effective training, standardization, and aircraft accident prevention. The aircrew instructor program includes individuals required to perform duties as an instructor for any aircrew position. Individuals designated for instructor duty are authorized to instruct at all levels of qualification.

5.3.1.1. Select instructors based on their background, experience, maturity, and ability to instruct.

5.3.1.2. Units are authorized the number of instructors IAW their Unit Manning Document (UMD). This number of instructors may be exceeded by commanders to meet unique circumstances and should be controlled.

5.3.2. Instructor Qualifications. Unit commanders will personally review each instructor candidate's qualifications to ensure the individual possesses the following minimum prerequisites:

5.3.2.1. Instructional Ability. An instructor is a teacher and must understand the principles of instruction as outlined in the instructor upgrade courseware.

5.3.2.2. Judgment. Instructors must possess judgment necessary to meet unexpected or induced emergencies and the ability to exercise sound judgment through mature realization of their own, their student's, and the aircraft's limitations.

5.3.2.3. Personal Qualities. The instructor must have patience, tact, understanding, and the desire to instruct others. Instructors must have a personality which inspires and wins respect of each student.

5.3.2.4. Technical Knowledge. The instructor must be thoroughly familiar with respective aircraft systems and equipment, normal and emergency operating procedures, and for pilots and flight engineers, the prohibited maneuvers and aircraft performance under all conditions of flight. Additionally, all instructors must be thoroughly familiar with the applicable portions of USAF and AFSOC flight management, flying training, and flying operations publications.

5.3.2.5. Flying Experience. Instructors must possess reasonable flying experience to include desired standards of skill and proficiency in both the aircraft and assigned missions. Flying hours alone cannot be accepted as criteria for selection to instructor.

5.3.2.6. Tactical Experience. The instructor must be familiar with respective aircraft defensive systems and equipment. They must be familiar with how their MDS can be employed in threat areas. They must be familiar with AFSOCMAN 11-1 applicable volumes.

#### **5.4. Instructor Responsibilities:**

5.4.1. General. Instructors will be thoroughly familiar with all courseware and contents of the applicable attachments to this instruction for qualification, upgrade, and specialized training they are required to administer.

5.4.1.1. Instructors will review their student's training records, to include records of counseling and other evaluations or progress indicators, prior to each training flight or session.

5.4.1.2. Instructors are responsible for a thorough preflight briefing and critique. They will comply with requirements of mission outlines, as appropriate, for the type of mission being flown.

5.4.1.3. Instructors must ensure all required upgrade training items are completed and signed off and the required level of proficiency has been demonstrated before recommending the student for an evaluation or certifying the student is qualified.

5.4.2. Instructor Pilots. Instructor pilots are responsible at all times for the conduct of the flight and safety of the aircraft. If at any time during the flight, the judgment or proficiency of the student at the controls raises a question in the instructor's mind as to the student's ability to safely complete a prescribed maneuver, the instructor will immediately take over the controls of the aircraft. The instructor should then explain and demonstrate proper methods of conducting the maneuver prior to the student

resuming control of the aircraft. All instructors will place special emphasis on the procedures for positive identification of emergency conditions before initiating corrective action. In addition, instructors will place high emphasis on procedures for positive exchange of control; these procedures will be thoroughly briefed.

5.4.3. Instructor Aircrew Members (Other than Pilots). Each instructor aircrew member is responsible for the safe execution of the duties of their respective crew position. At any time during the flight, if the judgment or proficiency of the student should raise a question in the instructor's mind as to the student's ability to safely execute the duties of the aircrew position, the instructor will immediately assume those duties. The instructor should then explain and demonstrate the proper method of executing these duties.

5.4.4. Instructor Deficiencies. Instructors who demonstrate deficiencies in their ability to instruct may be used in their primary crew position (provided the deficiency does not involve primary crew duties). Commanders will take the necessary action to either retrain or remove those individuals from instructor status IAW Air Force and AFSOC directives.

## 5.5. Instructor Upgrade Prerequisites:

5.5.1. General. Instructors in basic aircraft qualification status may keep basic aircraft qualification instructor status during mission qualification training. However, before they can instruct in mission events, they must finish mission qualification training and satisfactorily complete an instructor flight evaluation on a tactical mission. Total flying hour requirements as posted in flying tables for pilots and flight engineers are flying hours in that crew position. All other crew positions are specified in their respective paragraphs. Basic flight engineer instructors may be certified as mission ready instructors by their unit commander when they finish mission qualification training.

5.5.2. Initial Candidates. All initial instructor upgrade candidates must be mission ready in their unit's mission for a minimum of 6 months.

5.5.2.1. Instructor Pilot. Have a minimum flying time as follows:

**Table 5.1. Minimum Hours Required for Instructor Pilot Upgrade.**

TOTAL HOURS	PMAI HOURS*
Over 2,000	200
1,900-1,999	260
1,800-1,899	320
1,700-1,799	380
1,600-1,699	440
1,500-1,599	500
*Pilots must possess a minimum of 200 hours as an AC-130 aircraft commander, and 100 hours in the respective MDS.	

5.5.2.2. Instructor Navigator. Have a minimum of 1,000 hours total time, 300 AC-130 hours, and at least 200 PMAI hours.

5.5.2.3. Instructor Electronic Warfare Officer. Have a minimum of 500 hours total time and at least 100 PMAI hours.

5.5.2.4. Instructor Fire Control Officer. Have a minimum of 1,000 hours total time, 300 AC-130 hours, and at least 200 PMAI hours.

5.5.2.5. Instructor Flight Engineer. Have the following minimum flying time:

**Table 5.2. Minimum Hours Required for Instructor Flight Engineer Upgrade.**

TOTAL HOURS	PMAI HOURS
Over 2,000	200
Less than 2,000	400

5.5.2.6. Instructor Sensor Operator/Aerial Gunner. Have a minimum of 400 hours total time.

5.5.2.7. Instructor Direct Support Operator. Have a minimum of 300 hours total time and 100 hours as a DSO.

5.5.2.8. Instructor Loadmaster. As a minimum, possess 1A251 PAFSC and have 1-year of experience on AFSOC mission aircraft.

5.5.3. Ground and Flight Training Requirements. Crewmembers scheduled for instructor upgrade will complete ETCA prerequisites prior to starting the upgrade and comply with the following requirements:

5.5.3.1. Flight Instructor Preparatory (FIP). Aircrew members attending formal instructor upgrade training at Little Rock AFB will complete the ATS IPC course (PIP, NIP, FIP, LIP) prior to attending the course at Little Rock. Those aircrew members who do not attend formal training at the above formal school, or were not previously aircrew instructors with formal school attendance, will attend Academic Instructor Training Course (AITC) at Hurlburt Field.

5.5.3.2. Conduct flying training IAW the applicable syllabus of instruction/AF Form 4111.

5.5.3.3. Conduct flight evaluation IAW AFI 11-2AC-130, Vol 2.

5.5.3.4. Enlisted Crewmembers Previously Qualified as Instructors. Enlisted aircrew instructor candidates who have previously attended a formal instructor course for instructor qualification and were certified as an instructor in another USAF aircraft may, at the unit commander's discretion, upgrade in-unit without a waiver. Unit commanders determine the training required to complete the upgrade. Units will develop instructor upgrade AF Form 4111 overprints for this training and forward through channels to HQ AFSOC/DOT for approval. Unit commanders may still require prior instructors to attend the ATS instructor upgrade course. In-unit instructor upgrades require OG/CC approval. Approval will be documented and a copy sent to HQ AFSOC/DOT.

**5.6. Flight Examiner Upgrade.** Flight examiners are selected from the most qualified and competent instructors. Before being designated as a flight examiner, candidates will demonstrate satisfactory knowledge of command training and evaluation procedures.

**5.7. Special Qualifications.** The unit commander will select aircrew members qualified in the unit's mission to maintain additional special qualifications. Personnel previously special event qualified (to include pilots previously special event qualified as copilots) may requalify by demonstrating proficiency and accomplishing a flight evaluation, if applicable. Instructors are authorized to teach any special qualifica-

tions in which they are qualified and current unless specifically restricted. Conduct evaluations and certification for special events IAW AFI 11-2AC-130, Vol 2, applicable AF Form 4111 and [Table 5.3](#).

**5.8. Air Refueling Contact (AR) Qualification.** Conduct IAW the appropriate AF Form 4111 followed by a special mission event IAW AFI 11-2 AC-130 Vol. 2, AC-130 Aircrew Evaluation Criteria. AR contact pilots are trained and qualified in both seats. AR pre-contact qualification is an instructor certified event. Units may select highly qualified pre-contact qualified pilots and copilots for upgrade to contact qualification. Upon completion of training and evaluation, these pilots will maintain currency IAW AR aircraft commander criteria.

**5.9. Dual Qualified Sensor Operator Upgrade.** The prerequisite flying time requirement is based on developing experience after initial qualification. Dual qualified sensor operator candidates should possess a demonstrated proficiency in their initial qualified position, knowledge, and judgment to effectively accomplish the unit's mission.

5.9.1. Dual qualified sensor operator candidates will have a minimum of 300 hours AC-130 primary time.

5.9.2. Dual qualified sensor operator candidates are approved by the unit director of operations.

5.9.3. Squadron training (DOT) will forward requests for formal ground training to 16 OSS/DOT. 16 OSS/DOT will forward requests to HQ AFSOC/DOT and 19 SOS registrar. 19 SOS registrar will schedule ground training class dates and notify 16 OSS/DOT. 16 OSS/DOT will notify HQ AFSOC/DOT and squadron DOT in turn.

5.9.4. Ground and Flight Training Requirements

5.9.4.1. The primary method of dual qualification upgrade ground training is satisfactory completion of the appropriate formal course. When attendance is not practical or quotas are not available, units may request waivers to conduct secondary method training using formal school courseware.

5.9.4.2. The primary method of dual qualification upgrade flight training is satisfactory completion of approved in-unit training and the guidance below:

5.9.4.2.1. Flying training lessons will be conducted IAW AFI 11-2AC-130 Vol 1 and AFI 36-2201, Volume 1, Training Development, Delivery, and Evaluation. Where conflicts exist between these instructions, comply with AFI 11-2AC-130, Vol 1.

5.9.4.2.2. Flying training lessons should be completed sequentially. If mission scheduling or student progress dictates otherwise, the training sequence may be changed by the unit commander.

5.9.4.2.3. There should be minimum time lapse between training missions, and every effort should be made to complete mission training requirements within 120 days.

5.9.4.2.4. Crewmember requirements may be conducted on training or operational missions under the supervision of an instructor. Comply with restrictions in AFI 11-2AC-130 Vol 3.

5.9.4.2.5. Conduct flight evaluation IAW AFI 11-2AC-130 Vol 2, AC-130 Aircrew Evaluation Criteria.

**Table 5.3. Special Mission Evaluations and Instructor Certified Events.**

SPECIAL MISSION EVALUATIONS
Air Refueling Contact (P,CP)
Low-Level (P, CP, N)
NVG Airland Ops (Take Off and Landing) (P, CP, FE)
INSTRUCTOR CERTIFIED EVENTS
C-130E (P,CP,N,FE) (Note 3)
Flight Examiner (All, Flight Examiner certified event)
Air Refueling Instructor (P)
Air Refueling Precontact (P,CP)
Air Refueling (N,FE,) (Note 2)
Night Low Level (FE, FCO)
Touch and Go Landings (P) (Note 1)
NVG Airland Ops (Take Off and Landing) (P, CP, FE)

**NOTES:**

1. Aircraft Commanders must possess a minimum of 100 hours in command of C-130 type aircraft prior to certification.
2. Basic INs may instruct AR.
3. This qualification should only be entered on the AF Form 1381, USAF Certification of Aircrew Training, if the individual became qualified by conversion training (primary MDS to C-130E) IAW paragraph 2.7. Individuals who became C-130E qualified through a flight evaluation do not require this entry.

**5.10. Functional Check Flight (FCF).** CONUS units should use the formal training FCF course at the 19 SOS when available. The FCF course is in two parts. Part one includes academic and simulator training at the 19 SOS using AFSOC approved syllabus and courseware. Part two; the unit, will conduct the completion of FCF training IAW HFI 11-201, Chapter 8 and the approved AF FORM 4111. FCF training requires instructor certification on AF Form 1381 filed in the individual's FEF.

## Chapter 6

### AIRCREW TRAINING RECORD

**6.1. General.** The AF Form 4109, Special Operations Aircrew Training Folder, contains the AF Form 4110, Comments - Special Operations Training Record, and the applicable AF Form 4111, Special Operations Training Record, for the type training and aircrew position. Comply with the following instructions for management of the AF Form 4109. Maintain and dispose of all records created by processes prescribed in this instruction IAW AFMAN 37-139, Records Disposition Schedule.

6.1.1. Initiate an AF Form 4109 for any aircrew member beginning:

6.1.1.1. Any ETCA formal school course (either by primary or secondary method).

6.1.1.2. Theater/unit indoctrination.

6.1.1.3. Special mission event upgrade training.

6.1.1.4. Corrective action required as a result of a flight evaluation other than end-of-course evaluations. This requirement may be waived by the unit commander if corrective action is limited and would not warrant initiation of a training folder. If initiated, the flight examiner who evaluated the aircrew member will enter comments pertinent to the training deficiency on the AF Form 4110.

6.1.2. Do not insert training forms in flight evaluation folders.

6.1.3. Maintain active AF Form 4109 in a location readily accessible to instructors, trainers, supervisors, and the aircrew members in training. Training folders should be maintained in the squadron that students are assigned or attached to for flying.

6.1.4. Formal school will send the AF Form 4109 to the student's gaining unit after the student graduates.

6.1.5. Unit training managers will retain AF Forms 4109 from formal school training and in-unit upgrades for 1 year.

6.1.6. The instructor is responsible for documentation placed in the AF Form 4109 for the aircrew member receiving training. The training folder must be available for the student to review.

**6.2. Instructions for Documenting Aircrew Training (AF Form 4109).** Comply with the following instructions for documenting aircrew member training in the AF Form 4109, Special Operations Aircrew Training Folder.

6.2.1. Student Information (Cover). Provides student and course information.

6.2.1.1. Name/Grade. Self-explanatory.

6.2.1.2. Aircrew Position. Enter current aircrew position and level of qualification. For aircrew members in an upgrade program, enter aircrew position to which they are upgrading.

6.2.1.3. Unit of Assignment. Self-explanatory.

6.2.1.4. Type of Training. Enter formal course title or for special mission event qualification, enter type; i.e., Air Refueling, High Altitude Airdrop, NVG Landings, etc.

6.2.1.5. Course Number. Enter only ETCA formal course number; i.e., C-130 ACQ, C-130 PIN, etc., otherwise leave blank.

6.2.1.6. Class Number. Enter formal school class number; otherwise, leave blank.

6.2.2. Ground Training Summary (Inside Left). This section provides a chronological record of ground training events. Record non-flying training events. Entries are required for special function trainer (SFT), celestial training device (CTD) training, part task trainer (PTT), cockpit procedures training (CPT), weapon system trainer (WST), mission rehearsal device (MRD), satellite navigation station (SNS) training, and ground training (GT). Entries are not required for in-unit academic instruction conducted IAW formal school courseware.

6.2.2.1. Date. Self-explanatory.

6.2.2.2. Training Period. Enter sequentially numbered training period designators; i.e., PTT-1, CPT-3, WST-2, GT-1, etc.

6.2.2.3. Instructor or Trainer (Qual). Enter name of the instructor or trainer and aircrew qualification; i.e., EN, AC, EF, etc.

6.2.2.4. Training Time. Self-explanatory. Do not include time normally associated with prebriefing and debriefing SFT, CTD, PTT, CPT, WST, MRD or SNS training missions.

6.2.3. Written Evaluations. Record data on written evaluations required by the training program.

6.2.3.1. Date. Enter date that written evaluation was completed.

6.2.3.2. Type. Enter AFI 11-2AC-130 description or other appropriate identifier.

6.2.3.3. Grade. Make entry IAW AFI 11-2AC-130, Vol 2.

6.2.4. Flying Training Summary (Inside Right). This section provides a chronological record of flying training events. Record flight training events, both on training sorties and operational missions. Log all events scheduled, even if canceled by external factors (WX, MX).

6.2.4.1. Date. Self-explanatory. On operational missions enter inclusive dates.

6.2.4.2. Training Period. Enter sequentially numbered training period designators; i.e., P-1, T-1, T-2, etc.

6.2.4.3. Status. Use the following codes to indicate student status:

6.2.4.3.1. Satisfactory (S). The student met or exceeded all the listed required proficiency levels (RPL) for that training period. Student advances to the next programmed lesson or training period. When using AF Form 4111 without pre-printed RPLs for each training period, instructors will use judgment to determine overall student status.

6.2.4.3.2. Training Record (T). The student fell below the listed RPL for one or more job elements. The job element was not graded below standard last time it was graded and additional training periods that include that job element remain in that phase. The student advances to the next programmed lesson or training period. When using AF Form 4111 without pre-printed RPLs for each training period, instructors will use judgment to determine overall student status.

6.2.4.3.3. Unsatisfactory (U). The student fell below the listed RPL on the same job element for two consecutive training periods, or fell below the listed RPL on any job element and no

training periods remain prior to an evaluation, or if dangerous tendencies are noted. When using AF Form 4111 without pre-printed RPLs for each training period, instructors will use judgment to determine overall student status. The student requires a progress review before scheduling any additional training.

6.2.4.3.4. Incomplete (I). The overall grade will be incomplete under one of the following conditions:

6.2.4.3.4.1. All required training period job elements were not graded, the student has not previously attained the RPL of the missed job elements, and the RPL changes to a higher level on the next training period or it is the last training period in a block or phase. The student will repeat the lesson or training period.

6.2.4.3.4.2. The student was graded "I" on the previous training period and the missed job element(s) could not be accomplished during the current training period. The student will repeat the lesson or training period.

**NOTE:** Enter "I" for incomplete missions followed by the reason. Use the following codes: "MX" for maintenance abort or delay, "OPS" for an operations abort or delay, "SYM" for sympathetic abort or delay, "WX" for weather abort or delay, or "IN" for student requirements being incompatible with the sortie being flown. All entries of "I" will be fully explained on the AF Form 4109.

6.2.4.3.5. Proficiency Advancement (P). Awarded in lieu of actual job element accomplishment when warranted by student's previous performance and knowledge. The student advances to the next programmed lesson or training period.

6.2.4.3.6. Exceptional (E). The student met or exceeded all RPLs and events in an exceptional manner.

6.2.4.3.7. Other (X). Flying performed without accomplishing job elements, for example, an AC-130HPMQ student who flies on a mission to support depot input/output on a trip to Robins AFB.

**NOTE:** Remedial training will be numbered the same as the deficient academic, simulator, or flying lesson followed by an "R" (example: T4-R-1, T4-R-2, etc.). Remedial training flights resulting from Q2 or Q3 flight evaluations will be numbered with an "R".

6.2.4.4. Instructor/Trainer (Qual). Enter name of the instructor or trainer and aircrew qualification.

6.2.4.5. Mission Time. Enter the total flight time of the training or operational mission in the top half of the block. If documentation of seat time is required, enter the time the student actually received instruction during the flight in the lower half of the block.

6.2.4.6. Cumulative Time. Use this block to enter the individual's total cumulative flight time in the specific training course. Enter total cumulative instruction time in the top half of the block. For courses requiring documentation of seat time, enter the total cumulative instruction time in the lower half of the block. The cumulative time block may start with total individual time when total time is a criteria to begin an upgrade.

6.2.5. Performance Evaluation Summary. Record data on required evaluations including reevaluations (if applicable).

6.2.5.1. Date Recommended. Enter date recommended for a performance evaluation (CPT, WST, flight).

6.2.5.2. Type Evaluation. Enter AFI 11-2AC-130 evaluation description or other appropriate identifier.

6.2.5.3. Instructor/Trainer (Qual). Enter name of instructor/trainer and aircrew qualification.

6.2.5.4. Operations Review. Indicate, with the initials of the reviewer, that a records review has been accomplished by the operations officer or designated representative following recommendation for an evaluation.

6.2.5.5. Date Eval. Enter date the evaluation was completed.

6.2.5.6. Flight Examiner. Self-explanatory.

6.2.5.7. Grade. Make entry IAW AFI 11-2AC-130.

6.2.6. Grading Standards/Definitions (Back Cover). This section explains grading standards and training codes. Use the top section with the AF Form 4111.

6.2.7. Training Period Designators. Use the codes listed in the AF Form 4109 to describe training periods. Formal training schools may use more descriptive designators, if required.

6.2.8. Remarks. Indicate why an individual enrolled in a training program has not flown or been actively participating in the program (DNIF, TDY, etc). Use sufficient detail to document the reasons and time frame. Make other remarks as appropriate.

**6.3. Instructions for Documenting Aircrew Training Comments (AF Form 4110).** AF Form 4110, Comments - Special Operations Training Record, provides for narrative descriptions of training events and the means for documenting operations review of training progress.

6.3.1. Name. Self-explanatory.

6.3.2. Date. Self-explanatory.

6.3.3. Training Period. Enter the appropriate training period designator, numbered sequentially.

6.3.4. Mission Profile/Strengths/Weaknesses/Recommendations. Describe the mission scenario to accurately document each event; i.e., sensor alignment, live fire, dry fire, pilot pro, type and number of approaches, etc. Local overprints are authorized. Comments should elaborate on student strengths and weaknesses, identify problem areas, record unusual circumstances, and indicate student progress. For formal school use, where preprinted RPLs are included, enter a comment whenever the student's performance level is below the printed RPL. Enter the authorization for progression on a proficiency basis. Recommendations should include tasks requiring further training and the type training required. The instructor will print and sign his/her name, rank, and crew qualification immediately following this entry.

6.3.5. Student Review. The student will initial on the last line of each training period's comments prior to the next training period, indicating awareness of training status. The student does not have to agree with the written comments before initialing form.

6.3.6. Operations Review. The appropriate unit training officers or course managers will conduct a monthly review of active status AF Forms 4109. The operations officer will review active status AF Forms 4109 at least once each calendar quarter. The monthly review is not required during the month

in which the quarterly review is accomplished. Document reviews on the AF Form 4110. The reviewer will insert "monthly review" or "quarterly review" as applicable in the Training Period block. Include comments concerning the student's progress, status, and recommendations in the Mission Profile/Strengths/Weaknesses/Recommendations block. Following applicable comments, the reviewer will sign their name and indicate their position; i.e., Operations Officer, Training Officer, etc.

**6.4. Instructions for Documenting Aircrew Performance (AF Form 4111).** AF Form 4111, Special Operations Training Record, provides for the overprint of task listings, scheduled training, and required end-of-course proficiency levels for each ground and flight training task. Use it also to record student proficiency levels on each training mission. Maintain AF Form 4111 on the right side of the AF Form 4109.

6.4.1. Name. Self-explanatory.

6.4.2. Crew Position. Self-explanatory.

6.4.3. Course/Phase. Enter ETCA formal course identification; i.e., C-130PIN. For special mission qualification, enter type; i.e., Dual Target Attack, etc. Also identify training phase; i.e., ground, simulator, or flying.

6.4.4. Programmed Training Profile. Provide the programmed training sequence to include SFT, CTD, PTT, CPT, WST, MRD, SNS, and flight training missions. Identify the type of training mission and number. For ETCA courses, this section will reflect the Course Summary Document.

6.4.5. Actual Training Profile. Use this section to document the actual profile accomplished. Identify the training mission type and number (i.e., T-3).

6.4.6. Task Listing. Reflects the tasks and subtasks in the training program requiring specific student performance or knowledge proficiency standards. Use the left column to vertically identify a general area (i.e., ground operations, emergency procedures, etc). When training is not listed for a crew position, the aircrew member is considered qualified in that position for that maneuver.

6.4.7. Minimum Events Required. If appropriate, this number should reflect the minimum number of times a student should complete a specific task prior to course completion. The number is a recommended minimum, which normally allows the student to achieve proficiency. It is neither intended to restrict the number of times the task must be accomplished nor restrict proficiency advancement.

6.4.8. Performance Grade (P/Gr) and Knowledge Grade (K/Gr). Enter a performance grade or knowledge grade, or both, by each task or subtask where performance and knowledge was demonstrated by the student. Use task performance and knowledge codes listed on the AF Form 4109. Non-instructor qualified trainers, i.e., aircraft commanders for copilots, will not enter performance or knowledge grades. Instead, they will use the "X" code described on the AF Form 4109. Formal schools and units may elect to use the last vertical column to document evaluation results. In these cases, enter the performance grade or knowledge grade or both by each task or subtask evaluated. Do not normally evaluate students until performance/knowledge levels are sustained at course standards. If overprints are used, strike through the overprint if student met programmed proficiency/knowledge. If the student did not meet expected program level, write over the overprint with the proficiency/knowledge actually achieved on that event.

**NOTE:** When the same AF Form 4111 is used to document more than one phase of training, end of phase required proficiency levels (end of simulator phase, etc.) for a task may be entered in the Performance Grade/ Knowledge Grade blocks for that mission.

6.4.9. Required Proficiency Levels (P/Gr and K/Gr). These columns indicate the end of phase/ course performance and knowledge proficiency standards required for each task and subtask. These will reflect the appropriate Master Task Listing standards.

**6.5. AF Form 4111 Overprints.** Maintain AF Form 4111 overprints on computer disk using the approved form software. HQ AFSOC/DOT is the OPR for the disk. Disks will be distributed to group training offices for copying and further distribution on an as required basis. Any unit desiring to update an AF Form 4111 will forward a copy of the revision through channels to HQ AFSOC/DOT for inclusion in the next issue of the disk.

## 6.6. Grading Standards:

6.6.1. Grading Criteria. Instructors will determine both individual mission element grades and the overall mission grade by assessing the student's performance against the RPLs. Use the grading criteria in the chart below.

6.6.2. Task Performance:

CODE	PERFORMANCE is:	DEFINITION
		Individual:
1	Extremely Limited	Can do most activities only after being told or shown how.
2	Partially Proficient	Can do most of the behaviors in activity, but not necessarily to the desired levels of speed, accuracy, and safety.
3	Competent	Can do and show others how to do the behavior in activity at the minimum acceptable levels of speed, accuracy, and safety.
4	Highly Proficient	Can do all behaviors in activity at the highest level of speed, accuracy, and safety.

## 6.6.3. Task Knowledge:

CODE	KNOWLEDGE of:	DEFINITION
		Individual:
A	Facts/Nomenclature	Can identify basic facts and terms about the subject or when used with a performance code, can state nomenclature, simple facts, or procedures involved in an activity.
B	Principles/Procedures	Can explain relationship of basic facts and state general principles about the subject or when used with a performance code, can determine step-by-step procedures for set activities.
C	Analysis/Operating	Can analyze facts and principles and draw conclusions about the subject or principles when used with a performance code, can describe why and when each activity must be done and tell others how to accomplish activities.
D	Evaluation/Complete	Can evaluate conditions and create new rules or concepts about the subject, theory, or when used with a performance code, can inspect, weigh, and design solutions related to theory involved with activities.

6.6.4. Course Training Standards. Course training standards describe the minimum overall performance levels required to progress and graduate from a course. Each syllabus lists the course training standards students must achieve for each sortie or block of sorties before progressing to subsequent training.

RONALD E. KEYS, Lt General, USAF  
DCS, Air and Space Operations

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFCAT 21-209, *Ground Munitions*

AFI 11-2AC-130V1, *AC-130 Aircrew Training*

AFI 11-2AC-130V2, *AC-130 Aircrew Evaluation Criteria.*

AFI 11-2AC-130V3, *AC-130 Operations Procedures*

AFI 11-202V1, *Aircrew Training*

AFI 11-202V2, *Aircrew Standardization/Evaluation Program*

AFI 11-202V3, *General Flight Rules*

AFI 11-218, *Aircraft Operations and Movement on the Ground*

AFI 11-290, *Cockpit/Crew Resource Management Training Program*

AFI 11-301, *Aircrew Life Support (ALS) Program*

AFI 11-401, *Flight Management*

AFI 11-403 *Aerospace Physiological Training Program*

AFI 13-207, *Preventing and Resisting Aircraft Piracy (Hijacking)*

AFI 14-105, *Unit Intelligence Mission and Responsibilities*

AFI 31-207, *Arming and Use of Force by Air Force Personnel*

AFI 31-210, *The Air Force Antiterrorism (AT) Program*

AFI 32-4001, *Disaster Preparedness Planning and Operations*

AFI 33-360V1, *The Air Force Publications Program*

AFI 33-360V2, *Forms Management Program*

AFI 36-2107, *Active Duty Service Commitments*

AFI 36-2201, *Developing, Managing, and Conducting Training*

AFI 36-2209, *Survival and Code of Conduct Training*

AFI 36-2226, *Combat Arms Training and Maintenance Program*

AFI 36-2238, *Self Aid and Buddy Care Training*

AFI 41-210, *Patient Administration Functions*

AFI 91-202, *The US Air Force Mishap Prevention Program*

AFMAN 11-210, *Instrument Refresher Course Program*

AFMAN 11-217, *Instrument Flight Procedures*

AFMAN 24-204, *Preparing Hazardous Materials For Military Air Shipments*

AFMAN 37-139, *Records Disposition Schedule*

AFPD 10-9, *Lead Operating Command Weapon Systems Management*

AFPD 11-2, *Aircraft Rules and Procedures*

AFPD 11-4, *Aviation Service*

AFPD 51-401, *Training and Reporting to Ensure Compliance With The Law of Armed Conflict*

AFOSH Standard 91-56, *Fire Protection and Prevention*

AFOSH Standard 127-56, *Fire Protection and Prevention*

AFSOCI 11-207, *Tactics Functions and the Tactics Development and Improvement Program*

AFSOCI 11-301, *Aircrew Life Support*

AFSOCI 11-403, *C-130 Aircrew Training*

AFI 11-203V5/6, *AC-130 Configuration/Mission Planning*

AFTTP 3-1, *Mission Employment Tactics/Tactical Employment*

ETCA, *Education Training Course Announcements*

### ***Abbreviations and Acronyms***

**AAA**—Anti-Aircraft Artillery

**AC**—Aircraft Commander

**ACDE**—Aircrew Defense Ensemble

**ADIZ**—Air Defense Identification Zone

**ADSC**—Active Duty Service Commitment

**AERPS**—Aircrew Eye and Respiratory Protection System

**AFOSI**—Air Force Office of Special Investigation

**AFSOC**—Air Force Special Operations Command

**AFSOF**—Air Force Special Operations Forces

**AIT**—Aircrew Intelligence Training

**AITC**—Academic Instructor Training Course

**AOR**—Area of Responsibility

**API**—Aircrew Position Indicators

**APU**—Auxiliary Power Unit

**AR**—Air Refueling

**ARCT**—Air Refueling Control Time

**ARMS**—Aviation Resource Management System

**ATD**—Aircrew Training Device

**AT/FP**—Anti-Terrorism/Force Protection  
**ATO**—Air Tasking Order  
**ATS**—Aircrew Training System  
**BAI**—Backup Aircraft Inventory  
**BDZ**—Base Defense Zone  
**BZ**—Buffer Zone  
**CAS**—Close Air Support  
**CAT**—Combat Aircrew Training  
**CCT**—Combat Control Team  
**CDTQT**—Chemical Defense Task Qualification Training  
**CMP**—Combat Mission  
**CMT**—Combat Mission Training  
**COMM**—Communications  
**COMSEC**—Communications Security  
**CONPLAN**—Concept Plan  
**CP**—Copilot  
**CPT**—Cockpit Procedures Trainer  
**CRD**—Currency Reference Date  
**CRM**—Crew Resource Management  
**CSPT**—Cryptologic Skills Proficiency Test  
**CTD**—Celestial Training Device  
**DF**—Dry Fire  
**DOC**—Designed Operational Capability  
**DoD**—Department of Defense  
**DNIF**—Duty Not Involving Flying  
**DRU**—Direct Reporting Unit  
**DSO**—Direct Support Operator  
**E**—Exceptional  
**EC**—Electronic Combat  
**ECM**—Electronic Countermeasures  
**EOC**—End of Course  
**ETCA**—Education and Training Course Announcements

**EWO**—Electronic Warfare Officer  
**FCIF**—Flight Crew Information File  
**FCIS**—Flight Crew Information Summary  
**FCO**—Fire Control Officer  
**FE**—Flight Engineer  
**FEF**—Flight Evaluation Folder  
**FIP**—Flight Instructor Preparatory  
**FOA**—Field Operating Agency  
**FP**—First Pilot  
**FS**—Flight Surgeon  
**GPS**—Global Positioning System  
**GT**—Ground Training  
**GTC**—Gas Turbine Compressor  
**HF**—High Frequency  
**HIDACZ**—High Density Airspace Control Zone  
**HQ**—Headquarters  
**HUD**—Heads Up Display  
**I**—Incomplete  
**IAW**—In Accordance With  
**ICS**—Interplane Communication System  
**IDS**—Infrared Detection System  
**IFF/SIF**—Identification Friend or Foe/Selective Identification Feature  
**IMC**—Instrument Meteorological Conditions  
**IN**—Incompatible  
**INFIL**—Infiltration  
**INS**—Inertial Navigation System  
**IP**—Instructor Pilot  
**IPC**—Instructor Preparatory Course  
**IRC**—Instrument Refresher Course  
**ISOPREP**—Isolated Personnel Report  
**JSSA**—Joint Services SERE Agency  
**K/Gr**—Knowledge Grade

**LM**—Loadmaster  
**LNO**—Liaison Officer  
**LOAC**—Law of Armed Conflict  
**LOC**—Line of Communication  
**LPS**—Local Proficiency Sortie  
**MAJCOM**—Major Command  
**MAP**—Missed Approach Point  
**Max**—Maximum  
**MC**—Mission Capable  
**MDA**—Minimum Descent Altitude  
**MDS**—Mission Design Series  
**METL**—Mission Essential Task List  
**MOST**—Mission Oriented Simulator Training  
**MPF**—Military Personnel Flight  
**MR**—Mission Ready  
**MRD**—Mission Rehearsal Device  
**MRR**—Minimum Risk Route  
**MX**—Maintenance  
**NAV**—Navigator  
**NCO**—Noncommissioned Officer  
**NDB**—Non-Directional Beacon  
**NVD**—Night Vision Device  
**NVG**—Night Vision Goggles  
**OCONUS**—Outside Continental United States  
**OFFP**—Operational Flight Program  
**OG**—Operations Group  
**OPLAN**—Operational Plan  
**OPR**—Office of Primary Responsibility  
**OPS**—Operations  
**OPSEC**—Operations Security  
**P**—Proficiency Advance  
**P/Gr**—Performance Grade

**PCS**—Permanent Change of Station

**PDS**—Personnel Data System

**PFT**—Programmed Flying Training

**PLF**—Pounds per Linear Foot

**POC**—Point of Contact

**PMAI**—Primary Mission Aircraft Inventory

**PSF**—Pounds per Square Foot

**PSYOPS**—Psychological Operations

**PTT**—Part Task Trainer

**R**—Remedial

**ROA**—Restricted Operating Area

**ROZ**—Restricted Operating Zone

**RPL**—Required Proficiency Level

**S**—Satisfactory

**SAM**—Surface to Air Missile

**SCA**—Self Contained Approach

**SCNS**—Self Contained Navigation System

**SERE**—Survival Evasion Resistance Escape

**SFT**—Special Function Trainer

**SMT**—Secondary Method Training

**SNS**—Satellite Navigation System

**SOFI**—Special Operations Forces Improvements

**SOFPARS**—Special Operations Forces Planning and Rehearsal System

**SOG**—Special Operations Group

**SOI**—Syllabus of Instruction

**SOPE**—Special Operations Planning Exercise

**SOS**—Special Operations Squadron

**SOW**—Special Operations Wing

**STAN/EVAL**—Standardization and Evaluation

**STS**—Special Tactics Squad

**SUPT**—Specialized Undergraduate Pilot Training

**SYM**—Sympathetic (Abort)

**TACAN**—Tactical Air Navigation

**TDY**—Temporary Duty

**TIC**—Troops in Contact

**TL**—Training Level

**TOA**—Time Of Arrival

**TOT**—Time Over Target

**TSRTS**—Threat Signal Recognition Training System

**U**—Unsatisfactory

**UHF**—Ultra-High Frequency

**UMD**—Unit Manning Document

**UPT**—Undergraduate Pilot Training

**USSOCOM**—United States Special Operations Command

**VFR**—Visual Flight Rules

**VHF**—Very High Frequency

**VTRAT**—Visual Threat Recognition and Avoidance Trainer

**WST**—Weapon System Trainer

**WX**—Weather

**Zn** —Zenith

### *Terms*

**Air Refueling (AR)**—For the purposes of this instruction, airborne fuel onload (simulated or actual) by AC-130 receiver aircraft.

**Backup Aircraft Inventory (BAI)**—Aircraft assigned to a unit to assist in maintaining readiness. Aircraft designated as BAI assets do not receive funding or manning consideration for the unit.

**Basic Aircraft Qualification Aircrew Member**—An aircrew member who has satisfactorily completed qualification training in the basic aircrew position and maintains aircraft currency IAW this instruction.

**Basic Mission Capable Aircrew Member**—An aircrew member who has satisfactorily completed mission qualification and is maintaining 50 percent of the applicable mission qualification currency requirements of this instruction. Basic mission capable crewmembers may perform primary crew duties on any unilateral training mission. For other missions, the unit commander must determine the readiness of each basic mission capable crewmember to perform primary crew duties.

**Calendar Month**—Requirements are due once per month and not necessarily associated with a 30/60 day requirement. For example, an aircrew member could accomplish the event on 1 February and then on 31 March the following month and still fulfill the requirement.

**Conversion Training**—Training accomplished when changing between same design aircraft and the amount of training needed for qualification does not warrant attendance at a formal qualification course.

**Core Mission Events**—A crewmember must be qualified in all core mission events to be considered Mission Ready (MR) or Mission Capable (MC). To determine how non-currency in any core mission event affects overall mission currency, refer to the aircraft's Mission Ready Flying Requirements Table ([Table 4.7.](#) or [Table 4.8.](#)). Loss of qualification in any core mission event results in loss of overall mission qualification. A core mission event will be considered an instructor certified event when it is not required to be evaluated on the Initial Mission Evaluation. Squadrons will maintain at least 100 percent of their required manning as MR. AFSOC unit CC/DO will determine the status/qualification of crewmembers in excess of 100 percent manning requirement.

**Direct Support Operator (DSO)**—An AFSOC aircrew position responsible for providing threat warning and enhanced situational awareness to SOF missions utilizing intelligence data and expertise in the area of operations.

**Dual Qualified**—A crewmember who is qualified in more than one crew position in the same MDS.

**Event**—A training item to be accomplished. Multiple events may be completed and logged during a sortie unless specifically excluded elsewhere in this instruction.

**Formal School Courseware**—Training materials and programs developed for training aircrew members at formal schools. It includes all student study guides, workbooks, computer-based training lessons, instructor guides, and AF Form 4111, Individual Mission Grade Record, related to the specific course.

**Formation Operations**—Accomplish IAW applicable volume(s) of AFSOCI 11-202, AFI 11-2AC-130 Vol. 3, TO 1-1C-1-20, and TO 1-1C-1-29. AFSOC guidance will never be less restrictive than the formation definitions found in AFI 11-202, Vol 3, "Formation Flight", "Nonstandard Formation", and "Standard Formation". Formation operations places all aircraft in a critical phase of flight which requires constant vigilance, strict discipline, and polished crew coordination for mission accomplishment. Training will ensure aircrew can think and plan for multiple aircraft instead of single ship operations.

**Infrared Detection System (IDS)**—A passive navigation/sensor system which detects radiant infrared energy.

**Instructor Certified Events**—Training given to an aircrew member that requires an instructor to certify the student's attainment of the required proficiency and knowledge levels as specified in courseware and, if appropriate, AF Form 4111. Instructor certified events are documented in AF Form 1381.

**Mission Design and Series (MDS) for Aircraft**—The official designation for aerospace vehicles used to represent a specific category of aerospace vehicles for operations, support, and documentation purposes.

**Mission Essential Task List (METL)**—Combat-oriented training requirements. All AFSOC aircrew training requirements should be in support of unit METLs.

**Mission Events**—The squadron Doctrinal (DOC) Statement defines required crew capabilities. These capabilities/tactics/events can be categorized as either Core or Special Mission.

**Mission Oriented Simulator Training**—Training conducted in a WST or MRD that incorporates a full mission profile. The focus of this training should be crew coordination and problem solving.

**Mission Ready Aircrew Member**—An aircrew member who has satisfactorily completed mission qualification and is maintaining all of the applicable mission qualification currency requirements of this instruction.

**Multiple Qualification**—A crewmember who is qualified in more than one MDS.

**Primary Mission Aircraft Inventory (PMAI)**—Aircraft assigned to a unit for performance of its wartime mission. PMAI forms the basis for the allocation of operating resources to include manpower, support equipment, and funding of flying hours.

**Projectile Impact Point Prediction (PIPP)**—An AC-130U radar mode that estimates the impact position of 40MM and 105MM projectiles using the APQ-180 radar set.

**Self-Contained Approach (SCA)** —An approach conducted using self-contained navigation systems on the aircraft.

**Special Mission Events**—Some MR/MC crewmembers will carry additional qualifications in special mission events. Unit CC/DO will determine which crewmembers will be qualified in special mission events. Unit CC/DO will determine if special mission events have affected C-rating and report variations through Status Of Resources in Training (SORTS). Special mission requirements are also shown in [Table 4.7](#) and [Table 4.8](#).

**Total Flying Time**—Total time for all aircraft flown in military service to include student time. Time accumulated must be in the aircrew member's current rating (i.e., pilot, navigator, etc.).

**Training Status**—A deficient status in which a crewmember must fly under the supervision of an instructor when occupying a primary crew position. Once deficient items are corrected, the crewmember is removed from training status.

**Volume** —For the purposes of this instruction, volume refers to the number of events an aircrew member must accomplish in a given period of time (i.e., quarterly or semiannually).

## Attachment 2

### PILOT/FLIGHT ENGINEER SIMULATOR REFRESHER COURSE

**A2.1.** The annual simulator refresher course is designed to improve standardization and to provide maximum training on normal, instrument, and emergency procedures. The course is scheduled to be completed in 16 hours. The course consists of consecutive 4-hour simulator missions with an in-depth systems prebriefing and debriefing for each mission. The prebriefing and simulator mission will thoroughly review the areas below. Modifications may be made to meet unit aircraft differences. Mission-oriented simulator training (MOST) will also be included. Students will not be evaluated by Flight Examiners during this training.

**A2.2.** The mission prebriefing will include normal operations, limitations, and malfunctions of the following aircraft systems as well as associated emergency procedures:

A2.2.1. Oxygen System

A2.2.2. Smoke, overheat, and fire detection and extinguishing systems

A2.2.3. Fuel system:

A2.2.3.1. Air refueling system (UARRSI)

A2.2.4. Environmental:

A2.2.4.1. Air conditioning system

A2.2.4.2. Pressurization system

A2.2.5. Anti/deicing systems

A2.2.6. Electrical system:

A2.2.6.1. AC power sources and buses

A2.2.6.2. AC power distribution system

A2.2.6.3. DC power distribution

A2.2.6.4. Ground and emergency power

A2.2.7. Engines:

A2.2.7.1. Engine oil system

A2.2.7.2. Engine starting and ignition

A2.2.8. Propellers

A2.2.9. Instruments:

A2.2.10. Hydraulics:

A2.2.10.1. Hydraulic systems.

A2.2.10.2. Flight controls.

A2.2.10.3. Landing gear.

A2.2.10.4. Brake systems.

A2.2.10.5. Aft cargo door and ramp

A2.2.11. Communication/navigation systems

A2.2.12. Integrated flight control system:

A2.2.12.1. Autopilot

A2.2.12.2. Flight director system

A2.2.13. Adverse weather operation, hot and cold weather operations, thunderstorm avoidance, and windshear

A2.2.14. Current trends of accidents, incidents, and equipment malfunctions

**A2.3.** Thoroughly review the following additional areas:

A2.3.1. Crash landing

A2.3.2. Bailout

A2.3.3. Ditching

A2.3.4. Performance data

A2.3.5. Driftdown

A2.3.6. Buddy start

A2.3.7. Windmill taxi start

A2.3.8. Three-engine takeoff

A2.3.9. Stalls and recoveries. Devote a minimum of 30 minutes of academic classroom training to a discussion of:

A2.3.9.1. Situations in which the aircraft is most susceptible to stall

A2.3.9.2. Avoiding stalls when encountering those situations

A2.3.9.3. Importance of crew coordination in preventing stalls

A2.3.9.4. Stall recognition and recovery procedures

A2.3.9.5. Relationship and effects of density altitude, airspeed, gross weight, bank angles, wing loading, and how they effect stalls

A2.3.9.6. How to prevent secondary stalls

A2.3.9.7. Fin stalls

A2.3.10. Mission profile briefing (prior to each mission)

**A2.4.** Simulator missions will include the following areas:

A2.4.1. Pilot judgment and quick decision problems:

A2.4.1.1. Minimum of one quick decision problem for each simulator period

A2.4.1.2. Instrument approaches and engine out procedures with emphasis on instrument approaches

A2.4.1.3. Minimum of two rejects and one engine failure after refusal speed per crew on each simulator mission

A2.4.2. Minimum of two planned tactical/low level missions where conditions can be altered or emergencies created that will test the crew's ability to think and plan during periods of stress. Emphasis should be placed on the appropriate conditions that Special Operations crews operate under, i.e., night, low level, and air refueling.

A2.4.3. Minimum of one planned mission where runway length is critical, minimum altitude for terrain/obstacle clearance during climb, cruise, and descent is stressed, and examples of operating and experiencing emergencies at Emergency War Plan (EWP) weights are demonstrated.

A2.4.4. Emergencies and malfunctions will cover the following at least once during the length of the course. The items not covered in the simulator will be discussed during briefing and debriefing.

A2.4.4.1. APU and GTC fire

A2.4.4.2. Starting malfunctions

A2.4.4.3. Engine fire on ground

A2.4.4.4. Wing isolation and bleed air divider valve failure

A2.4.4.5. Aborted takeoff

A2.4.4.6. Engine fire or failure takeoff

A2.4.4.7. Runaway pitch trim

A2.4.4.8. Engine overheat

A2.4.4.9. Precautionary engine shutdown

A2.4.4.10. Engine failure or fire in-flight

A2.4.4.11. Air start

A2.4.4.12. Fuel jettison

A2.4.4.13. Cargo jettison

A2.4.4.14. Fuselage fire

A2.4.4.15. Smoke and fume elimination

A2.4.4.16. Electrical malfunctions and fire, including four-engine power loss

A2.4.4.17. Turbulence and thunderstorms

A2.4.4.18. Engine, wing, and empennage icing

A2.4.4.19. Air conditioning compartment overheat

A2.4.4.20. Air conditioning anti-ice over temperature

A2.4.4.21. Compass failure

A2.4.4.22. Oil system failure

- A2.4.4.22.1. Low quantity
- A2.4.4.22.2. Low pressure
- A2.4.4.22.3. High temperature
- A2.4.4.23. Landing gear failure
- A2.4.4.24. Flight control failure
- A2.4.4.25. Asymmetric flaps
- A2.4.4.26. In-flight door warning
- A2.4.4.27. Rapid decompression
- A2.4.4.28. Emergency descent
- A2.4.4.29. Three-engine approach and go-around
- A2.4.4.30. Two-engine approach and go-around
- A2.4.4.31. No-flap approach
- A2.4.4.32. Wheels up landing
- A2.4.4.33. Prop malfunctions
- A2.4.4.34. Windmill taxi start
- A2.4.4.35. Three-engine takeoff
- A2.4.4.36. Confidence Maneuvers - steep turns, slow flight, approach to stalls, and stall recoveries
  - A2.4.4.36.1. As a minimum, each pilot will accomplish the following:
    - A2.4.4.36.1.1. Power on and power off stalls with gear up/down for 0 percent, 50 percent, and 100 percent flap configurations
    - A2.4.4.36.1.2. Stall will be performed for both straight and level flight and with varying bank angles (30, 45)
    - A2.4.4.36.1.3. Fin stalls
  - A2.4.4.36.2. While stall training should be practiced at all altitudes, emphasize training at traffic pattern altitudes and lower. During recovery, stress minimum loss of altitude and avoiding entry into a secondary stall.
- A2.4.4.37. Unusual attitude, spatial disorientation, and partial panel training
- A2.4.4.38. Controllability check (battle damage)

**A2.5.** The mission debriefing will include a full debriefing and completion of a student critique.

### Attachment 3

#### AERIAL GUNNER REFRESHER COURSE

**A3.1. General.** The annual refresher course is designed to improve standardization and to provide maximum training on AC-130H/U aerial gunner duties and responsibilities. An in-depth review and update of gun systems and training on gun emergency procedures will be accomplished. The course is designed to be completed in 30 academic hours (or less) and will not include a graded written examination. Separate courseware may be used to reflect mission design series (MDS) differences, as applicable. Schedule an aircraft or PTT for applicable portions of the course. Failure to complete this course within applicable restrictions does not currently require grounding of the crewmember.

#### **A3.2. Publications:**

A3.2.1. Using instructor led discussion, explain the use of publications required by AC-130H/U aerial gunners to perform their duties:

A3.2.1.1. Technical orders

A3.2.1.2. AF publications

A3.2.1.3. Command publications

A3.2.1.4. FCIF and FCIS

A3.2.1.5. Hurlburt Field (local) publications

A3.2.1.6. In-flight Guides and publications required for flight

**A3.3. Aircraft Modification and Procedural Changes.** Using instructor led discussion, the latest improvements to aerial gunner/aircraft equipment and procedures will be briefed to the crewmember:

A3.3.1. Aircraft general systems modifications

A3.3.2. Guns and related systems

A3.3.3. Technical data and instructions

**A3.4. Aircraft Systems.** Using instructor led discussion, the crewmember will review operation, limitations, and related normal/emergency procedures:

A3.4.1. Oxygen system

A3.4.2. Hydraulic systems

A3.4.3. Intercommunication system (ICS)

A3.4.4. Lighting systems

A3.4.5. Defensive systems

**A3.5. Gun Systems.** Using instructor led discussion and PTT (as required), crewmember will explain location, theory of operation/nomenclature, and application to related malfunctions:

A3.5.1. Armament controls (switches)

A3.5.2. Armament electronics (circuit breakers, etc.)

A3.5.3. Trainable gun mounts

A3.5.4. 25MM gun (AC-130U only)

A3.5.5. 40MM gun

A3.5.6. 105MM gun

A3.5.7. Ammunition storage and handling systems (ASHS)

**A3.6. Ammunition/Handling.** Using instructor led discussion, the crewmember will explain ammunition types, their characteristics and tactical use, ammunition inspection criteria, worldwide and local loading/unloading procedures, fuse setting procedures, net explosive weights/classes (N.E.W.), and explosive safety principles:

A3.6.1. 105MM ammunition/clearing rounds

A3.6.2. 40MM ammunition

A3.6.3. 25MM ammunition (AC-130U only)

A3.6.4. Pistol Flares (AC-130H only)

**A3.7. Normal Crew Duties.** Using instructor led discussion and a static aircraft/PTT, the crewmember will explain and perform (if possible) normal crew duties:

A3.7.1. Aerial Gunner checklists

A3.7.2. In-flight Guide techniques

**A3.8. Emergency Procedures.** Using instructor led discussion and a static aircraft/PTT, the crewmember will explain and perform emergency procedures for aircraft, guns, and related systems:

A3.8.1. 25MM gun (AC-130U only)

A3.8.2. 40MM gun

A3.8.3. 105MM gun

A3.8.4. Trainable gun mounts

A3.8.5. Pistol flares (AC-130H only)

A3.8.6. Emergency equipment

**A3.9. Scanners Duties/Aircraft Defense.** Using instructor led discussion and/or the scanner Visual Threat Recognition Avoidance Trainer (VTRAT), the crewmember will describe (perform when possible) scanners duties, related aircraft defensive maneuvers, and scanner equipment use:

A3.9.1. AAA

A3.9.2. SAMs (IR and Radar)

A3.9.3. Airborne intercepts

A3.9.4. Traffic calls and other related scanners duties

## Attachment 4

### ELECTRONIC WARFARE OFFICERS REFRESHER COURSE

**A4.1. General.** The annual electronic warfare officer (EWO) refresher course is designed to improve standardization, provide a review of equipment capabilities and procedures, provide a review and update on threat systems, and provide training in threat identification. The course is normally scheduled to be completed in 24 academic hours and will not include a written examination. Units will develop courseware in coordination with group intelligence and may add or delete items as applicable to their assigned aircraft and mission. A simulator may be used if available. MOST may also be included when scheduling permits. Students will not be evaluated during EWO Refresher Course or MOST.

**A4.2. Publications.** Using an instructor led discussion, review the following publications:

- A4.2.1. AFTTP 3-1
- A4.2.2. AFI 11-2AC-130, Vol 3
- A4.2.3. AFSOCMr 11-1 Vol 2 and applicable volumes
- A4.2.4. Conduct a review of the applicable intelligence publications

**A4.3. Electronic Combat Principles.** Using an instructor led discussion, review the following EC principles:

- A4.3.1. Radar cross-section (RCS), resolution cell, radar horizon, and maximum theoretical range.
- A4.3.2. Examine the use of the radar shadow length computer and equations used for terrain masking.
- A4.3.3. Discuss the various types of scan techniques employed by radar, i.e. track-while-scan, conical, and monopulse.
- A4.3.4. Discuss moving target indicator and pulse doppler.
- A4.3.5. Discuss the types of electronic countermeasures employed by the ECM systems onboard your unit assigned aircraft.
- A4.3.6. Discuss electronic counter-countermeasures which might be used to defeat the ECM systems onboard your unit aircraft.

**A4.4. Infrared Countermeasures (IRCM) and Chaff.** Using an instructor led discussion, review the employment of chaff and IRCM.

- A4.4.1. Explain how chaff is effective versus threat radars, i.e., RCS, bloom time, frequency, and radar resolution cell.
- A4.4.2. Explain how flares are effective versus IR guided threats i.e., micron range, and rise time.
- A4.4.3. Explain the techniques employed by IRCM pods to defeat IR guided threats.

**A4.5. Threats.** Using an instructor led discussion, review the following threat systems:

- A4.5.1. Review the capabilities and limitations of the ground and sea based SAM systems in the unit's AOR.

A4.5.2. Review the air-to-air threat systems in the unit's AOR.

A4.5.3. Review the ground and sea based AAA systems in the unit's AOR.

**A4.6. IRCM and Expendables Equipment.** Using an instructor led discussion, review the capabilities and limitations of special operations aircraft IRCM and expendables gear.

A4.6.1. AN/AAR-44 (H/U)

A4.6.2. AN/ALE-40

A4.6.3. QRC-84-02A

**A4.7. Tactics.** Using an instructor led discussion, review tactics versus different threat types. Considerations should include but not be limited to day/night conditions, multiple weapons types per threat, i.e., guns, IR missiles, radar missiles. Conduct threat analysis for airborne threats, surface to air missiles, and anti-aircraft artillery.

**A4.8. Receiving Equipment.** Using an instructor led discussion, review the capabilities and limitations of special operations aircraft receiving equipment:

A4.8.1. AN/ALR-69 (AC-130H)

A4.8.2. QRC-84-05 (AC-130H)

A4.8.3. N/APR-46 (AC-130H/U)

A4.8.4. AN/ALR-56 (AC-130U)

**A4.9. Electronic Countermeasures (ECM) Equipment.** Using an instructor led discussion, review the capabilities and limitations of special operations aircraft ECM gear:

A4.9.1. AN/ALQ-172 (U)

A4.9.2. AN/ALQ-131 (H)

**A4.10. Mission Planning.** Using an enemy order of battle, rules of engagement, target objectives, intelligence, support, and flight/mission planning materials and equipment, successfully plan a mission. Note: This requirement can be fulfilled by completion of a SOPE when under the direction of an instructor.

A4.10.1. Using a mission planning computer:

A4.10.1.1. Construct a target area chart.

A4.10.1.2. Construct a route chart.

A4.10.1.3. Construct a flight plan.

A4.10.1.4. Build and load a data transfer module.

A4.10.2. Use all available intelligence sources.

A4.10.3. Prepare a briefing using mission planning computer information.

A4.10.4. Compile all mission planning data for future study.

A4.10.5. The instructor will designate a portion of the route to be manually mission planned, to include shadow graphing.

**A4.11. Electronic Sensor Systems (AC-130H Only).** Review the use and employment of the AN/APQ-150 and the AN/ASD-5.

A4.11.1. Review the families of beacons that are compatible with each respective sensor.

A4.11.2. Review target search and track procedures.

**A4.12. Communications Systems Equipment and Procedures (AC-130H Only)**

A4.12.1. KY-58 (until replaced by KY-100)

A4.12.2. KY-100 (if applicable)

A4.12.3. KYV-5 Automated Narrowband Digital Voice Terminal (ANDVT)

A4.12.4. Over-The-Air-Rekeying (OTAR) Procedures

A4.12.5. Have Quick/SINCGARS procedures

A4.12.6. DMDG (until transition to DAMA)

A4.12.7. DAMA SATCOM

A4.12.8. CYZ-10 Data Transfer Device (DTD)

A4.12.9. HF Automatic Communications Processor (HF-ACP)

## Attachment 5

### FIRE CONTROL OFFICER REFRESHER COURSE

**A5.1. General.** The annual FCO refresher course is designed to improve standardization and to provide maximum training to review and refine FCO job skills. The course will be designed to cover the following areas as a minimum and is scheduled to be completed in approximately 20 academic hours using available simulators/computer-based instruction. This training should be scheduled on two separate days. A simulator may be used if available. MOST may also be included when scheduling permits. Students will not be evaluated during FCO Refresher Course or MOST.

**A5.2. Premission Planning.** Given a sample mission, prepare applicable charts and documents to fly the mission.

**A5.3. Fire Control Equipment.** Given appropriate fire control system equipment, discuss system integration and operation. Also include degraded system operations. Use the simulator to the maximum extent possible for this training.

**A5.4. Pacing.** Given a simulator mission or classroom situation, perform/discuss in-flight FCO duties with emphasis on staying ahead of the aircraft.

**A5.5. Ballistic Theory.** Include in this discussion: side firing ballistic theory, ammunition ballistic/characteristics, tweaking techniques/procedures, manual tweaking, combat tweaking, two-shot procedures, and error determination review.

**A5.6. Sensor Theory.** Review and discuss atmospheric effects and the electromagnetic spectrum as they apply to our sensor platforms. Discuss relevant radar theory/operation as applicable.

#### **A5.7. Mission Review.**

A5.7.1. Close Air Support. Review fire support requests and coordination procedures, No-Fire Areas and Heading determination procedures, target marking procedures, friendly identification procedures, and target identification procedures.

A5.7.2. Reconnaissance. Review common search methods and system limitations/strengths.

A5.7.3. Escort Procedure Review. Discuss methods of escort for the various vehicles we deal with.

**A5.8. Publications Review.** As a minimum, review the contents of the National Imagery and Mapping Agency (NIMA) Chart Products Catalog, AFSOCM 11-1 (Vol 1-4), JP 3-09, Doctrine for Joint Fire Support, JP 3-09.1 Joint Laser Designation Procedures, J-Fire, Multi Service Procedures for the Joint Application of Firepower.

**A5.9. Navigation Systems Review.** Review basic components of the navigation system and how they integrate into the fire control solution and aircraft's navigation system.

**A5.10. Execution Checklists, Air Tasking Orders, Special Instructions, and Communications Instructions/Matrix.** Conduct a review of the format and content, emphasizing verification of data to ensure mission information is complete, accurate, and deconflicted.

**Attachment 6****FLIGHT ENGINEER SYSTEMS REFRESHER COURSE**

**A6.1.** The annual system refresher course is designed to improve standardization and to provide maximum training on normal procedures, emergency procedures, and hostile environment repair. The course is scheduled to be completed in 5 days. It consists of in-depth systems coverage and emergency procedures for each system. Modifications may be made to meet unit aircraft differences.

**A6.2.** The system refresher will include the following areas:

A6.2.1. The crewmember will review normal operations, limitations, and malfunctions of the following aircraft systems as well as associated emergency procedures:

A6.2.1.1. Warning systems

A6.2.1.2. Oxygen systems

A6.2.1.3. Smoke, overheat, and fire detection and extinguishing systems

A6.2.1.4. Fuel system, Air-refueling

A6.2.1.5. Environmental:

A6.2.1.5.1. Air conditioning system

A6.2.1.5.2. Pressurization system

A6.2.1.6. Anti/deicing systems

A6.2.1.7. Electrical system:

A6.2.1.7.1. AC power sources and buses

A6.2.1.7.2. AC power distribution system

A6.2.1.7.3. DC power distribution

A6.2.1.7.4. Ground and emergency power

A6.2.1.8. Engines:

A6.2.1.8.1. Engine oil system

A6.2.1.8.2. Engine starting and ignition

A6.2.1.8.3. APU/GTC

A6.2.1.9. Propellers control systems

A6.2.1.10. Instruments:

A6.2.1.10.1. Pitot-static systems

A6.2.1.10.2. Radar cooling

A6.2.1.10.3. Radar limitatio

A6.2.1.10.4. Radar pressurization

A6.2.1.11. Hydraulics:

A6.2.1.11.1. Hydraulic systems

A6.2.1.11.2. Flight controls

A6.2.1.11.3. Landing gear

A6.2.1.11.4. Brake systems

A6.2.1.11.5. Aft cargo door and ramp

A6.2.1.12. Communication/ICS

A6.2.1.13. Integrated flight control system to include the flight director system

A6.2.1.14. Current trends of accidents, incidents, and equipment malfunctions

A6.2.1.15. Combat repair

A6.2.2. Thoroughly review the following additional areas:

A6.2.2.1. Crash landing

A6.2.2.2. Bailout

A6.2.2.3. Ditching

A6.2.2.4. Performance data

A6.2.2.5. Driftdown

**A6.3.** Emergencies and malfunctions will cover the following at least once during the length of the course.

A6.3.1. APU and GTC fire

A6.3.2. Starting malfunctions

A6.3.3. Engine fire on ground

A6.3.4. Wing isolation and bleed air divider valve failure

A6.3.5. Engine fire or failure takeoff

A6.3.6. Engine overheating

A6.3.7. Fuel jettison

A6.3.8. Cargo jettison

A6.3.9. Fuselage fire

A6.3.10. Smoke and fume elimination

A6.3.11. Electrical malfunctions and fire

A6.3.12. Engine, wing, and empennage icing

A6.3.13. Air conditioning compartment overheating

A6.3.14. Air conditioning anti-ice over temperature

A6.3.15. Oil system failure

A6.3.15.1. Low quantity

A6.3.15.2. Low pressure

A6.3.15.3. High temperature

A6.3.16. Landing gear failure

A6.3.17. Flight control failure

A6.3.18. Asymmetric flaps

A6.3.19. In-flight door warning

A6.3.20. Rapid decompression

A6.3.21. Wheels up landing

A6.3.22. Prop malfunctions

A6.3.23. Component location and identification

**A6.4.** The system refresher debriefing will include a full debriefing and completion of a student critique, minimum passing grade of 85 percent, corrected to 100 percent.

## Attachment 7

### LOADMASTER REFRESHER COURSE

**A7.1. General.** The annual loadmaster refresher course is designed to improve standardization and provide maximum training on loadmaster duties and responsibilities. The course is normally scheduled to be completed in 30 hours. Units will use formal school courseware when available and may add or delete items as applicable to their assigned aircraft and mission. Schedule an aircraft or PTT for applicable portions of this course.

#### **A7.2. Publications:**

A7.2.1. Explain the use of publications required by loadmasters to perform their duties:

A7.2.1.1. Technical orders

A7.2.1.2. AF publications

A7.2.1.3. Command publications

A7.2.1.4. FCIF and FCIS

A7.2.2. State directives to be carried:

A7.2.2.1. Aircraft commanders mission kit (applicable portions)

A7.2.2.2. Loadmaster kit

A7.2.3. Review loadmaster duties as outlined in applicable volume of AFI 11-2AC-130, Vol 3 and AFJMAN 24-204, Preparing Hazardous Materials for Military Air Shipments.

A7.2.3.1. Border clearance requirements

A7.2.3.2. Local directives

**A7.3. Aircraft Systems and Operations.** The crewmember will review normal operations, limitations, and malfunctions of the following aircraft systems as well as associated emergency procedures:

A7.3.1. Public address system

A7.3.2. Interphone/ICS system

A7.3.3. Hydraulic systems

A7.3.4. Oxygen Systems

A7.3.5. Lighting systems

A7.3.6. Air Conditioning system (AC-130U)

A7.3.7. Munitions handling and hot cargo procedures

A7.3.8. Defensive system (AN/ALE 40)

A7.3.9. Gunfire simulator light(AC-130H)

A7.3.10. Nitrogen cart and sentry loading and unloading (AC-130H)

**A7.4. Cargo Loading Systems and Aids:**

A7.4.1. Explain correct procedures, operation checks, and normal usage IAW T.O. 1C-130A-9 for cargo winching.

A7.4.1.1. Winch installation

A7.4.1.2. Checklist procedures

A7.4.1.3. Accessory kits

A7.4.1.4. Internal winching configuration

A7.4.1.5. External winching configuration

A7.4.1.6. Self-winching configuration

**A7.5. Structural Limitations:**

A7.5.1. Using the floor loading capacity chart in T.O. 1C-130A-9, determine the following:

A7.5.1.1. Contact area pressures (PSI)

A7.5.1.2. Contact area pressures (PSF)

A7.5.1.3. Linear foot limitations (PLF)

A7.5.1.4. Axle and wheel weight limits

A7.5.1.5. Compartment load limits

A7.5.2. Compute the area and PSI for specific items of cargo with and without shoring:

A7.5.2.1. Skid mounted cargo

A7.5.2.2. Drums

A7.5.2.3. Pneumatic tires

A7.5.2.4. Solid rubber tires and steel wheels

**A7.6. Weight and balance:**

A7.6.1. Determine formulas used for weight and balance and solve problems by using formulas to compute the center of gravity of an aircraft:

A7.6.1.1. Basic weight and balance formula

A7.6.1.2. Center of gravity and load/shift formula

A7.6.2. Select and use charts and graphs required to complete DD Form 365-4, Weight and Balance Clearance Form F Transport/Tactical:

A7.6.2.1. T.O. 1C-130X-1, weight limitations charts

A7.6.2.2. T.O. 1C-130X-5, loading charts

A7.6.2.3. T.O. 1C-130(A)H-5 ammo charts

A7.6.2.4. AFI 11-203V5/6, appropriate volumes, and AFI 11-2AC-130, Vol 3 appropriate volumes

**A7.7. Airlift of Hazardous, Perishable, Classified Materials, and Cargo Requiring Special Handling.**

A7.7.1. Using AFJMAN 24-204, state restrictions and precautions for handling, loading, and airlifting of hazardous materials.

A7.7.1.1. Restrictions from compatibility chart

A7.7.1.2. Safety precautions and Shippers Declaration for Hazardous Goods

A7.7.1.3. Procedures for utilizing DD Form 2133, Joint Airlift Inspection Record

A7.7.1.4. Protective clothing and equipment

A7.7.2. IAW AFJMAN 24-204, state procedures for airlifting the following:

A7.7.2.1. Mail

A7.7.2.2. Biological material

A7.7.2.3. Classified material

**A7.8. Load Planning:**

A7.8.1. Review the basic principles of load planning and demonstrate the use of projection charts in T.O. 1C-130A-9.

A7.8.2. Load plan given mixed loads to include the following:

A7.8.2.1. Palletized cargo

A7.8.2.2. Distributed cargo

A7.8.2.3. Concentrated cargo

A7.8.2.4. Hazardous cargo

A7.8.2.5. Vehicles

A7.8.3. Using load plan and chart E, compute DD Form 365-4

**A7.9. Applied Load Restraint:** State Restraint Criteria and Tie-down Capacities. Using a tape measure, compute required restraint on selected items.

A7.9.1. Directional restraint requirements

A7.9.2. Tie-down devices, straps

A7.9.3. Use of chain bridle and chain gate

A7.9.4. Use of barriers for spear type items

A7.9.5. Using a tape measure, compute required restraint

A7.9.6. Winch load an item of rolling stock into the aircraft

**A7.10. Fleet Service.** Review the joint responsibilities of fleet service and the loadmaster IAW AFJMAN 24-204, and applicable volume of AFI 11-203V5/6 and AFI 11-2AC-130, Volume 3.

A7.10.1. Aircraft cleanliness

A7.10.2. Supplies and equipment

A7.10.3. Meals

A7.10.4. Forms

**A7.11. Passenger Handling Techniques:**

A7.11.1. Review the responsibilities and duties of the loadmaster for troop and medical evacuation flights.

A7.11.1.1. Seatings

A7.11.1.2. Briefings

A7.11.1.3. Meals and comfort items

A7.11.1.4. Emergency procedures and equipment

A7.11.1.5. In-flight duties

A7.11.2. Passenger relations

**A7.12. Emergency Procedures:**

A7.12.1. Review emergency procedures outlined in T.O. 1C-130X-1 that pertains to the loadmaster:

A7.12.1.1. Ground operations

A7.12.1.2. In-flight

A7.12.1.3. Landing

A7.12.2. Review jettison procedures in T.O. 1C-130X-1 and T.O. 1C-130A-9, and ammo jettison procedures in AFI 11-2AC-130, Vol 3.

A7.12.3. Pyrotechnics

**A7.13. Tactics. Review equipment and procedures used in combat situations.**

A7.13.1. Scanner duties.

A7.13.2. Threat recognition and avoidance tactics.

A7.13.3. Defensive tactics.

## Attachment 8

### NAVIGATOR REFRESHER COURSE

**A8.1. General.** The annual navigator refresher course is designed to improve standardization and to provide maximum training to improve and refine navigator job skills. The course will be designed to cover the following areas as a minimum and is scheduled to be completed in approximately 10 hours using available simulators/computer-based instruction. This training should be scheduled on two separate days. A simulator may be used if available. MOST may also be included when scheduling permits. Students will not be evaluated during Navigator Refresher Course or MOST.

**A8.2. Premission Planning.** Given a sample mission, prepare applicable charts and documents to fly the mission.

**A8.3. Preflight Fuel Management.** Given a completed flight plan and appropriate fuel planning documents, compute the preflight fuel management section of the fuel log. For AR qualified navigators, a multiple leg fuel plan is required.

**A8.4. In-flight Fuel Management.** Given appropriate fuel planning documents and forms, compute fuel entries IAW AFI 11-2AC-130, Vol 3.

**A8.5. Calibration Checks.** Given a compass, true airspeed meter, true heading, indicated airspeed, and outside air temperature gauge, compute calibration checks for each instrument (as required).

**A8.6. Navigation Equipment.** Given appropriate navigation equipment and selected LOPs, cross-check and integrate all applicable navigation equipment to arrive at the most accurate position.

**A8.7. Pacing.** Given a simulator mission or classroom situation, perform/discuss in-flight navigation duties with emphasis on staying ahead of the aircraft.

**A8.8. Instrument Approach and Departure Procedures.** Using DoD flight information publications for approach and departure, discuss the proper procedures for monitoring aircraft during approach and departure operations. Discuss flight publications that can be used in lieu of DoD FLIP products.

**A8.9. Publications Review.** Review contents of the Foreign Clearance Guide (unclassified and classified portions), FLIP Documents, Flight Information Handbook, and the National Imagery and Mapping Agency (NIMA) Chart Products Catalog. Review procedures for Due Regard.

**A8.10. Navigation Systems Review.** Review each component and interface of the applicable aircraft's navigation system.

**A8.11. Mapping and Geodesy.** Conduct a review of mapping theory to include datum conversion and GPS capabilities/limitations.

**A8.12.** Execution Checklists, Air Tasking Orders, Special Instructions, and Communications Instructions/Matrix. Conduct a review of the format, and content, emphasizing verification of data to ensure mission information is complete, accurate, and deconflicted.

## Attachment 9

### SENSOR OPERATOR SYSTEMS REFRESHER COURSE

**A9.1. General.** The annual refresher course is designed to improve standardization and to provide maximum training on sensor operator duties and responsibilities. A review and update of sensor systems and training in target identification will also be accomplished. The course is designed to be completed in 25 academic hours and will not include a written examination. Units will develop courseware in coordination with 19 SOS sensor operator courseware managers and may add or delete items as applicable to their assigned aircraft and mission. This course will be approved by HQ AFSOC/DOT and may be taught by active-duty instructors on a rotational basis (i.e., 4 SOS one class, 16 SOS next and so on). Students will not be evaluated during sensor operator refresher course.

**A9.2. Publications.** Using an instructor led discussion, review the following publications:

- A9.2.1. AFI 11-2 AC-130, Vol 1-3 (including all supplements)
- A9.2.2. AFSOCMAN 11-1, Vol 1-4
- A9.2.3. J-Fire, Multi-Service Procedures for the Joint Application of Firepower
- A9.2.4. JP 3-09, Doctrine for Joint Fire Support
- A9.2.5. J-Laser, JP 3-09.1, Joint Laser Designation Procedures
- A9.2.6. National Imagery and Mapping Agency (NIMA) Chart Products Catalog

**A9.3. Sensor Theory.** Using an instructor led discussion, review the following principles:

- A9.3.1. Discuss the electromagnetic spectrum as it applies to electro-optical sensor systems.
- A9.3.2. Review the effect of atmospheric, as they apply to electro-optical sensor systems.

**A9.4. Sensor Systems.** Using an instructor led discussion, review the capabilities and limitations of current and upcoming sensor systems:

- A9.4.1. Discuss the different video standards, and uses in electro-optical sensor systems.
- A9.4.2. Discuss the various types of optics, magnification factors, and limitations.
- A9.4.3. Review the different types of thermal imagers, focal plane arrays, detectors, and limitations.
- A9.4.4. Review the different types of television systems to include discussion on charged-coupled-devices, intensifiers, and their limitations.
- A9.4.5. Review troubleshooting procedures for both sensor and mission systems.

**A9.5. Laser Systems.** Using an instructor led discussion, review the following:

- A9.5.1. Laser illuminator types, usage, and limitations
- A9.5.2. Laser designator and rangefinder types, usage, and limitations
- A9.5.3. Methods for designation, ranging, and illumination

**A9.6. Mission Planning.** Using an instructor led discussion review mission planning support materials:

A9.6.1. Discuss the importance of collecting all available information from the following:

A9.6.1.1. Air Tasking Order (ATO)

A9.6.1.2. Special Instructions (SPINS)

A9.6.1.3. Fire Support Annex

A9.6.1.4. Execution Checklist

A9.6.1.5. Customer specific information

A9.6.1.6. Intelligence Support Imagery

**A9.7. Target Identification.** Using an instructor led discussion or computer based instruction, review the characteristics of target identification of the following weapon systems:

A9.7.1. Review common land-based weapon systems.

A9.7.2. Review common waterborne weapon systems.

A9.7.3. Review common fixed and rotary-wing tactical aircraft.

**A9.8. Scope Interpretation and Orientation.** Using an instructor led discussion, review scope interpretation methods and systems used to maintain orientation.

A9.8.1. Discuss the relationships of the differing fields-of-view.

A9.8.2. Methods of slant range calculation for determining range and object sizes.

A9.8.3. Discuss the use of the Sensor Angle Display (SADs).

**A9.9. Target Acquisition and Identification.** Review the methods for acquiring and identifying both fixed and moving targets.

**A9.10. Live Fire.** Using an instructor led discussion, review the different methods of firing.

A9.10.1. Discuss the difference between performing a combat tweak on previously tweaked and/or untweaked weapons versus updating the tweak.

A9.10.2. Discuss the use of sensor offset shooting versus two-shot with respect to wind/gun error.

A9.10.3. Describe the limitations and uses of derotation shooting.

**A9.11. Munitions.** Using an instructor led discussion, review different targeting methods, munitions effectiveness, hit/aimpoints, and damage criteria, as outlined in the Joint Technical Coordinating Group for Munitions Effectiveness (JTTCG/ME) Special Operations Working Group manual.

**A9.12. Reconnaissance.** Using an instructor led discussion, review reconnaissance methods and techniques.

A9.12.1. Review the common search methods.

A9.12.2. Review common search techniques.

**A9.13. Close Air Support.** Using an instructor led discussion, review close air support procedures.

A9.13.1. Discuss the different fire support request formats and their application to gunships operations.

A9.13.2. Review joint fire support coordination.

A9.13.3. Discuss the use of No-Fire Areas and No-Fire Headings.

A9.13.4. Review methods for marking targets versus friendlies and urban CAS techniques.

A9.13.5. Review methods/systems used to identify friendly positions.

**A9.14. Low Level.** Review procedures for CHUM, E-CHUM, planning, chart preparations, turn points, and navigation updates.

**A9.15. Theater Specific Information.** Discuss any current contingency mission lessons learned or sensor specific information.

**A9.16. Aircraft Modifications/Updates.** Describe any upcoming modifications and/or updates to gunship sensor systems or software changes.

## Attachment 10

**CHEMICAL DEFENSE TASK QUALIFICATION TRAINING (CDTQT)**

**A10.1. General.** This attachment contains the initial and recurring aircraft CDTQT requirements for AFSOC aircrews. The purpose of CDTQT is to reinforce the crewmember's awareness of limitations and demonstrate physiological effects while wearing the aircrew chemical defense ensemble (ACDE). The complications of heat exhaustion, fatigue, hyperventilation, limited dexterity, and hampered communication can all be experienced during CDTQT. All aircrew members must complete initial aircrew life support chemical defense training prior to accomplishing initial CDTQT. Complete initial disaster preparedness training for the ground ensemble prior to CDTQT if the ground ensemble is used.

**A10.2. CDTQT Procedures:** Initial training may be accomplished in a certified and AERPS modified Aircrew Training Device (currency must be updated the following year in the aircraft). Training must be accomplished in the aircraft at least every 4 years. Training may be accomplished in the Aircrew Training Device in the intervening years. There are no restrictions to crew participation when training is accomplished in the simulator (i.e. both pilots may wear AERPS while accomplishing initial CDTQT).

A10.2.1. Accomplish CDTQT in-flight using the primary unit aircraft. Crewmembers will perform primary crew duties while wearing the ACDE. All profiles must be a minimum of 1 hour and accomplished on actual or combat training missions only.

A10.2.2. The entire ACDE need not be used. Normally, wear the filter pack, cotton gloves, butyl rubber gloves, nomex gloves, and the protective hood, along with the CBO mask/AERPS and helmet (if applicable). Either the ACDE or ground ensemble may be worn during aircraft preflight. Ground ensembles will come from training assets.

A10.2.3. When wearing the CBO mask, do not accomplish CDTQT when required to wear NVGs. When wearing AERPS, NVG events may be accomplished.

A10.2.4. An observer is required to monitor each crewmember while accomplishing CDTQT. An instructor or flight examiner in each respective crew position, not wearing the chemical defense components, will act as the observer for initial CDTQT. During recurring CDTQT, if the crewmember can be directly observed by another primary crewmember, a dedicated observer is not required. The dedicated observer during recurring CDTQT may also wear AERPS for all crew positions except pilots (two non-pilot crewmembers wearing AERPS may observe one another).

Example: During an AC-130U flight with a full mission crew complement, all crewmembers, with the exception of one mission pilot occupying a pilot seat, may wear AERPS if all of these crewmembers have previously completed initial CDTQT. Dedicated observers not wearing AERPS for non-pilot crewmembers are not required in this case.

A10.2.4.1. An instructor or flight examiner pilot not wearing the chemical defense components will occupy the opposite seat during initial pilot CDTQT. During recurring CDTQT, a mission qualified pilot not wearing the chemical defense components will act as the observer and occupy the opposite seat. With unit commander approval, both pilots may occupy the pilot seats provided both pilots have accomplished CDTQT within the past 90 days. The unit commander may delegate this authority to the operations officer or mission commander.

A10.2.4.2. Observers will closely monitor crewmembers actions during CDTQT. If a crewmember experiences difficulties such as excessive thermal stress, headaches, hyperventilation, nausea, etc., the crewmember will remove the ensemble. The observer will notify the aircraft commander of any difficulties encountered.

A10.2.5. Pilots will accomplish a minimum of one approach and landing. Pilots may accomplish CDTQT in either seat.

A10.2.6. Flight engineers will accomplish in-flight duties including running any checklists accomplished from before starting engines through after landing.

A10.2.7. All other crewmembers will credit CDTQT while performing their normal crew duties in-flight.

A10.2.8. During initial CDTQT the crewmember will practice egressing the aircraft with ACDE/AERPS donned.

**Attachment 11****SAMPLE UPGRADE NOMINATION LETTER**

AIR FORCE MEMORANDUM FOR 16 OSS/OST

16 OG/CC

HQ AFSOC/DOT

IN TURN

FROM: 16 SOS/DOT

SUBJECT: Nomination for Navigator Instructor Qualification

1. The 16 SOS nominates 1Lt John A. Smith AC130UNIQ (use full course identification) class 200301. His personal information is as follows:

SSAN:

Billeting:

Security Clearance:

Mode of Travel:

Mailing Address: (unit)

2. Individual has been briefed by the unit training officer or unit commander's representative and accepts the appropriate ADSC per the Education and Training Course Announcements (ETCA) and AFI 11-AC-130 Vol 1.

3. For instructor qualification courses a Flight Instructor Preparatory (FIP), AITC, or equivalent course requirement statement is required. It must state if the nominee requires the training, has completed it, or was a prior qualified flight instructor.

4. Any questions may be directed to (unit training officer) at DSN XXX-XXXX.

Squadron DO or CC signature block

*Forward this memo from the unit training office to the group training office (or equivalent) and group commander for coordination. Group training will forward a hard copy of the memo to HQ AFSOC/DOT (fax number DSN 579-2232).*